

1986/87



ANNUAL REPORT 1986/87

Alberta
TRANSPORTATION
AND UTILITIES



Office of the Minister
208 Legislature Building
Edmonton, Alberta
T5K 2B6
403/427-2080

The Honourable
W. Helen Hunley
Lieutenant-Governor
Province of Alberta

Madam:

I have the honour to submit to you the Annual Report of Alberta
Transportation and Utilities for the fiscal year ending March 31, 1987.

A handwritten signature in cursive script that reads "Allen 'Boomer' Adair".

ALLEN 'BOOMER' ADAIR
Minister of Transportation
and Utilities



Deputy Minister's Report

Significant progress has again been made during the fiscal year ending March 31, 1987 in the development of Alberta's transportation systems. The year also saw the amalgamation of Alberta Utilities with Alberta Transportation on June 5, 1986.

Approximately \$142 million was allocated to Alberta cities under the three year Urban Transportation Program, with approximately \$11 million provided under the five year Towns and Villages Streets Assistance Program. The Urban Program provided funding in four grant categories: Basic Capital; Major Continuous Corridors and Primary Highway Connectors; Public Transit Operating and Primary Highway Maintenance. Under the Major Continuous Corridors and Primary Highway Connectors Grant, the new Crownsnest Continuous Corridor through the City of Lethbridge was opened in the Fall of 1986. The Streets Assistance Program provided funding for capital construction projects such as: street grading, gravelling, base course, paving, concrete sidewalks, curbs and gutters, storm sewers and various other projects.

In the 1986/87 fiscal year \$529 million was expended on the construction of provincial roadways.

Highlights of the 1986/87 construction season were:

- Work was finished on Highway 40 to complete the connection from Grande Cache to Grande Prairie with a planned official opening for late Spring 1987.
- Multilaning of highly congested routes continued to be a priority, specifically on the twinning of the Trans-Canada Highway (Highway 1) and the Yellowhead Highway (Highway 16). The major urban section in Hinton on Highway 16 was officially opened.
- Important progress was again made under the Pavement Rehabilitation Program in the restoration, repair and strengthening of older highway pavement at a cost of approximately \$33 million for 406 kilometres of paved highway restored.
- Secondary road network improvements also continued to be a major priority with municipal and improvement district councils, resulting in over \$100 million being expended on approximately 1139 kilometres of roadway under the Secondary Roads Program.

Provincial and community airport construction and operation expenditures totalled approximately \$6 million during 1986/87, covering a number of projects at various provincial airport facilities. In the summer of 1986 the Foremost Airport facility was officially opened.

The amalgamation of Utilities with Transportation resulted in some restructuring of

the new organization with both areas coming under one Deputy Minister on January 1, 1987. A notable highlight of the Utilities Division during the year concerned the Alberta Farm Water Grant Program, which in its first full year of operation provided a positive impact on the agricultural sector and local businesses and suppliers in the farming community. During the 1986/87 fiscal year, approximately \$7 million was expended providing 1375 farms with essential water transmission facilities.

Once again in a time of downsizing expenditures and staff, I am pleased to report that the challenges provided were met with success by Alberta Transportation and Utilities' employees. Our primary thrust for the future will continue to be providing Albertans with an efficient, integrated transportation system for the movement of both goods and people and enhancing the availability and affordability of utilities services which are safe, efficient and effective.



HARVEY M. ALTON
Deputy Minister

Management Roles in Alberta Transportation and Utilities

MANAGING DIRECTOR, ALBERTA RESOURCES

RAILWAY - Responsible for revenues generated from railway usage. Makes annual assessment on required railway maintenance.

CHAIRMAN, MOTOR TRANSPORT BOARD

Responsible for managing the regulatory system governing intra and extra-provincial transportation within the framework of the Alberta and Federal Motor Transport Acts in the public interest.

LEGAL SERVICES - Responsible for the provision of all required legal services to the department through seconded Attorney General's Department employees.

CHAIRMAN, ELECTRIC ENERGY MARKETING

AGENCY - Plans, directs, organizes, controls and evaluates the activities of the Agency, recommends policy and legislative changes, liaises with departments and related industries in carrying out the Agency's legislative mandate, and is an observing member of the Electric Utility Planning Council.

DIRECTOR, PUBLIC COMMUNICATIONS

Responsible for providing public relations counsel and communications services sustaining departmental policies, programs and activities.

EXECUTIVE DIRECTOR, MOTOR TRANSPORT

BRANCH - Responsible for the regulation and control of the weights and dimensions of public vehicles. Provides administrative support to the Motor Transport Board.

ASSISTANT DEPUTY MINISTER, URBAN

TRANSPORTATION AND PLANNING - Responsible for development and implementation of the Urban Transportation Program as well as the long-range systems planning and functional design of provincial highways.

DIRECTOR, TRANSPORTATION SAFETY BRANCH

Responsible for the development, administration and co-ordination of safety programs aimed at reducing the number of traffic collisions and fatalities in Alberta.

EXECUTIVE DIRECTOR, PLANNING - Responsible for co-ordinating location studies, functional planning and roadside development throughout the province.

DIRECTOR, OPERATIONAL PLANNING - Responsible for location studies and functional design for all new proposed highways in the province.

EXECUTIVE DIRECTOR, CORPORATE PLANNING

Responsible for corporate strategic planning, systems planning, traffic monitoring and projections and provides inter-government design for the department on transportation issues.

EXECUTIVE DIRECTOR, URBAN TRANSPORTATION

Develops policies to recognize the needs and opportunities of urban communities and administers the Urban Transportation Program.

ASSISTANT DEPUTY MINISTER, ENGINEERING

Responsible for the provision of engineering standards and specifications, design, contract policy and administration, land acquisition standards and conveyancing, applied research co-ordination, and technical support for Transportation's roadway, bridge, airport and ancillary programs.

EXECUTIVE DIRECTOR, BRIDGE ENGINEERING

Responsible for the standards, direction, and performance of the department's bridge engineering, and for planning and delivery of the major bridge construction and maintenance programs.

DIRECTOR, PROPERTY SERVICES

Responsible for monitoring and acceptance of right-of-way purchase agreement and payments, initiation of expropriation procedures, managing land inventory, co-ordinating municipal road closure legislated requirements, and providing legal survey services for departmental programs.

EXECUTIVE DIRECTOR, ENGINEERING - Responsible for providing co-ordinated engineering standards and services for all departmental programs in the areas of contracts, design, materials, and research and development.

DIRECTOR, DESIGN ENGINEERING - Responsible for the development, application and monitoring of geometric design standards and the provision of design engineering services supporting all primary highway, secondary road and airport construction programs.

DIRECTOR, MATERIALS ENGINEERING - Responsible for providing a wide range of engineering, technical and administrative materials-related policies, standards and services to all departmental construction and maintenance programs.

DIRECTOR, CONTRACTS ENGINEERING

Responsible for contract administration policy, contract tendering and final payment auditing, settlement of third party and contractors' construction claims, administration of field project reviews and contract related engineering support services.

DIRECTOR, RESEARCH AND DEVELOPMENT

Responsible for co-ordinating applied research relating to the construction, maintenance and safe operation of the provincial transportation system.

ASSISTANT DEPUTY MINISTER, REGIONAL

TRANSPORTATION - Provides senior direction in all aspects of construction programming and operations; budget/program preparation, financial control, and information preparation. Responsible for operation and maintenance of provincial highway system, airports, campsites, ferries, and improvement district road networks. Provides input and direction for short and long-range planning, and occupational health and safety.

REGIONAL DIRECTOR, LETHBRIDGE - Senior department representative in the region occupying the southernmost 150-250 kilometres of the province. Responsible for delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

REGIONAL DIRECTOR, AIRDRIE - Senior department representative in the region extending west to British Columbia and the national parks boundaries from Saskatchewan, and north and south between the Fifth and Ninth Baselines. Responsible for delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

REGIONAL DIRECTOR, RED DEER - Senior department representative in the region extending for 100-200 kilometres north and south across central Alberta. Responsible for delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

REGIONAL DIRECTOR, ST. PAUL - Senior department representative in the northeast quadrant of the province. Responsible for the delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

REGIONAL DIRECTOR, BARRHEAD - Senior department representative in the region west of Edmonton the national park boundary, and north to Swan Hills and Calling Lake. Responsible for delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

REGIONAL DIRECTOR, PEACE RIVER - Senior department representative in the area north and west of Lesser Slave Lake. Responsible for the delivery of all Transportation programs. The prime contact with the public, municipal governments, private industry, and other government agencies in the region.

EXECUTIVE DIRECTOR, REGIONAL

TRANSPORTATION - Supervises and directs the head office divisional staff to ensure efficient management of all departmental programs implemented in the six provincial regions. Conducts and directs information preparation on important division and department issues and policies.

DIRECTOR, CONSTRUCTION PROGRAMMING

BRANCH - Directs the development, scheduling, preparation, and management of the department's annual capital construction programs, municipal grants programs, and related support services. Overall department responsibility for budget and financial control co-ordination.

DIRECTOR, OPERATIONS - Responsible for establishing maintenance standards, and preparation and control of maintenance budget. Ensures equitable distribution of maintenance funds to the regions. Provides guidance to regional staff on operational problems, policy direction and interpretation. Responsible for provincial skid resistance program, traffic safety installations, seeding programs, and oversees operation of campgrounds, rest areas and ferries.

DIRECTOR, AVIATION - Responsible for overall management of the Alberta Airport Development Program and establishment of maintenance standards for provincial airport facilities. Maintains liaison with other levels of government respecting aviation matters and provides aviation expertise for information requirements within and outside of the department.

MANAGER, OCCUPATIONAL HEALTH AND SAFETY

- Responsible for development and management of the department's programs for occupational health and safety, employee safe use of vehicles and equipment, and safety on the worksite, such as construction zone safety.

ASSISTANT DEPUTY MINISTER, ADMINISTRATION

- Responsible for the provision of support services to the other divisions in the department.

EXECUTIVE DIRECTOR, FINANCIAL SERVICES

- Responsible for the design implementation and control of all financial systems and transactions.

EXECUTIVE DIRECTOR, EQUIPMENT, SUPPLY AND

SERVICES - Responsible for the procurement repair and maintenance of all equipment and the purchase and inventory of all material in the revolving fund. Responsible for departmental accommodation, reproduction, communication and mail.

DIRECTOR, PERSONNEL MANAGEMENT

- Responsible for the recruitment classification, payroll and training of all departmental staff.

DIRECTOR, INFORMATION SERVICES - Responsible for the design development, enhancement and operations of all computer based systems and the records management program for the department.

ASSISTANT DEPUTY MINISTER, GAS UTILITIES -

Plans, develops, controls and directs the implementation of provincial policies and programs relating to rural and private utilities in the natural gas field, and recommends policy, program and legislative changes.

DIRECTOR, GAS ALBERTA - Responsible for the economic and efficient supply of natural gas to rural gas distributors throughout Alberta and for the provision of an optional customer retail billing service to rural distributors. Manages propane/fuel oil tank grants and utilities officer grant programs and provides other support services to rural gas co-operatives; such as, registering utility rights-of-way, recommending government loan guarantees and fulfilling the statutory duties of the Director of Rural Gas Co-operatives.

DIRECTOR, GAS DISTRIBUTION - Responsible for the administration of grants to rural gas distributors for the construction of natural gas systems. Provides technical, financial, business advisory and regulatory services related to gas supply, pipeline construction, utility operation, gas measurement and franchise areas.

ASSISTANT DEPUTY MINISTER, PLANNING, REBATES

AND RURAL ELECTRIC - Responsible for the provision of analysis and advice for Utilities' policies and for the development and delivery of rural electrification programs and heating fuel rebate programs.

DIRECTOR, REBATES - Responsible for developing and delivering rebate programs as follows: the Natural Gas Price Protection Plan and Primary Agricultural Producers Rebate Program for natural gas, the Remote Area Heating Allowance Program for propane and fuel oil, and the Senior Citizens Home Heating Protection Program.

DIRECTOR, UTILITIES PLANNING AND ANALYSIS - Responsible for providing analytical support and co-ordination for the development and evaluation of Utilities' policies, programs and planning activities.

DIRECTOR, RURAL ELECTRIC - Responsible for developing and delivering loan programs. Manages grant programs to assist rural electrification in isolated areas and, in fulfilling the statutory duties of the Director of Rural Electrification Associations, provides regulatory, financial and other advisory services to REA's.

EXECUTIVE DIRECTOR, MUNICIPAL UTILITIES -

Plans, directs, controls and evaluates the application of provincial policies and programs relating to the provision of financial assistance for municipal water and sewage facilities and farm water transmission systems. Recommends policy, program and legislative changes.

DIRECTOR, UTILITIES PLANNING AND

ENGINEERING - Responsible for the identification, evaluation and prioritization of municipal water and sewage projects and farm water transmission projects eligible to receive provincial grants. Provides technical assistance and advisory services to municipalities and farmers in the implementation of eligible water and sewage projects. Monitors the activities of, and provides advisory services to, water and sewer co-ops.

EXECUTIVE DIRECTOR, UTILITIES ADMINISTRATIVE

SERVICES BRANCH - Responsible for administering the activities of Utilities component for personnel administration, financial administration, records and general services and Automation and Information Services.

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ADMINISTRATION DIVISION

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H. Wilson
Executive Director

Financial Services Branch	8
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R.J. James
Executive Director

Information Services Branch	10
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D.R. McTavish
Director

Personnel Management Branch	12
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D.R. Learoyd
Director

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The *Administration Division* is responsible for the delivery of the personnel, financial, data processing, equipment, supply and general services. The division acts in an intermediary capacity between the central organizations such as the Personnel Administration Office, Alberta Treasury, and Alberta Public Works Supply and Services and the operating divisions of the department.

During the past year, the Departments of Transportation and Utilities were amalgamated into a single department. The Administration Division looks forward to the new challenges as a result of the change and anticipates a productive year.

The various branch reports for the division follow and explain in greater detail the activity and success we enjoyed over the past year. Our divisional accomplishments are the result of a dedicated staff whose efforts are acknowledged in the following pages.

Equipment, Supply and Services Branch

The Equipment, Supply and Services Branch through the department's Transportation Revolving Fund acts as a centralized service and supply agency addressing requirements of the department's program branches.

Audited financial statements for the Transportation Revolving Fund for the year ended March 31, 1987 are shown on pages 4-7.

Equipment Management

The Transportation Revolving Fund owns and operates a fleet of mobile equipment employed by the program branches to discharge responsibilities in the construction and maintenance of roads, bridges, and airports within the provincial transportation system.

The major thrust within the equipment group during this reporting period has been the matching of the fleet mix and size to the needs of the operating branches. Over the year the fleet has been reduced by 177 units, primarily in the area of light trucks and graders. The continued emphasis on preventative maintenance has provided an acceptable level of availability for fleet units, in particular the winter control equipment.

The development of an Equipment Management System (EMS) which will allow maintenance and repair functions to be more adequately evaluated and controlled is proceeding according to plan.

Effort is continuously being expended to engineer the equipment being acquired to the environmental and operating conditions experienced in the province. To achieve more responsive after sales service for departmental equipment a search was made to find local manufacturers capable of producing some of the department's winter control equipment requirements. As a result of this effort, a Calgary firm was the successful bidder on the 1987/88 hopper sander requirements.

Disposal of the department's surplus equipment is in the main, accomplished through public auction at local facilities throughout the province.

Shop Operations

The branch operates a network of 29 repair, maintenance and service facilities which:

- service, repair, overhaul, and maintain the department's equipment fleet
- provide customer service to program branches and other government departments on a cost-recovery basis.

The two major facilities are located in Airdrie and Edmonton where operations include the manufacture of finished goods, fabrication of specialized requirements, and the overhaul and reconditioning of components and inventories.

Throughout the year 51 852 signs were manufactured, a decrease of six per cent from the 1986/87 year. In accordance with the departmental policy of privatization, 24 785 (48 per cent) of these signs were manufactured by the private sector. Shop Operations is also responsible for the department's apprentice training program, which financed 130 apprentice programs again in 1986/87. The majority were in heavy-duty mechanic, welder, partsperson and machinist trades.

Stores Operations

Inventories maintained through the stores operation enable construction and maintenance functions to complete their program throughout the year. This unit, through its parts and material inventory, supports the fleet equipment repair and maintenance program and is instrumental in supplying materials for construction and maintenance purposes. Storage and maintenance of highway lighting equipment used by Transportation Safety Branch, airport runway lighting equipment used by Aviation Branch and several related safety items utilized throughout Alberta Transportation and Utilities are other responsibilities of the stores operation.

The inventory values have been reduced in the 1986/87 year to \$16 million, a decrease of \$1 million from the previous year. Inventory line items have been reduced to 10 000 as opposed to 15 000 in 1986/87. This is due mainly to standardization of products and privatization of supply contracts.

Support Services

The responsibility for Facilities Planning and Departmental Services was assumed by the branch in the 1986/87 year. In addition to these two functions, the Support Services group is responsible for budget preparation and branch administrative services. During the year the branch records were converted to the departmental filing system; administrative controls were implemented for fixed assets; improvements were accomplished in budget preparation and control; and space improvement was achieved in the Head Office through relocation of several engineering groups.

Transportation Revolving Fund



ALBERTA LEGISLATURE
OFFICE OF THE AUDITOR GENERAL

Auditor's Report

To the Minister of Transportation and Utilities

I have examined the balance sheet of the Transportation Revolving Fund as at March 31, 1987 and the statements of operations and surplus and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Fund as at March 31, 1987 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Donald H. Salmon

C.A.
Auditor General

Edmonton, Alberta
July 10, 1987

STATEMENT A

BALANCE SHEET

As At March 31, 1987

	1987	1986
ASSETS		
Current:		
Accounts receivable (Note 3)	\$ 9 894 285	\$ 17 023 740
Material inventories (Note 4)	17 678 344	16 654 917
Gravel inventory	30 345 087	27 770 485
Land inventory	9 075 775	5 556 628
	66 993 491	67 005 770
Fixed:		
Rental equipment, at cost	91 984 026	84 948 589
Accumulated depreciation	54 901 646	51 961 570
	\$ 37 082 380	32 987 019
Deferred system development costs	349 750	—
	\$ 104 425 621	\$ 99 992 789
LIABILITIES AND SURPLUS		
Current Liabilities:		
Accounts payable and accrued liabilities	\$ 4 584 571	\$ 18 265 876
Provincial Treasurer's advance	93 901 381	80 464 747
Surplus	5 939 669	1 262 166
	\$ 104 425 621	\$ 99 992 789

The accompanying notes are part of these financial statements

STATEMENT B

STATEMENT OF OPERATIONS AND SURPLUS

For the Year Ended March 31, 1987

	1987	1986
REVENUE		
Rental revenue	\$ 37 194 978	\$ 27 591 034
Inventory sales	21 072 175	21 677 665
Shop labour	1 109 451	805 957
	59 376 604	50 074 656
EXPENDITURE		
Equipment maintenance and operating expenses	22 278 785	25 022 361
Depreciation	8 167 766	8 057 194
Cost of inventory sales	18 870 759	19 697 786
General and administration	6 286 530	4 440 938
	55 603 840	57 218 279
Gain on disposal of equipment	3 772 764	(7 143 623)
	904 739	512 978
Net income (Loss) for the year	4 677 503	(6 630 645)
Surplus at beginning of the year	1 262 166	7 892 811
Surplus at end of the year	\$ 5 939 669	\$ 1 262 166

STATEMENT C

STATEMENT OF CHANGES IN FINANCIAL POSITION

For the Year Ended March 31, 1987

	1987	1986
OPERATING ACTIVITIES		
Cash from operations		
Net income (loss) for the year	\$ 4 677 503	\$ (6 630 645)
Net charges to income which do not reduce cash		
Depreciation	8 167 766	8 057 194
Gain on disposal of equipment	(904 739)	(512 978)
	11 940 530	913 571
Changes in non-cash working capital		
Decrease (increase) in accounts receivable	7 129 455	(2 686 253)
Increase in materials inventories	(1 023 427)	(2 983 427)
(Decrease) increase in accounts payable	(13 631 305)	9 982 007
	\$ 4 365 253	\$ 5 225 898
INVESTMENT ACTIVITIES		
Proceeds from gravel inventory disposals	5 788 269	12 644 082
Proceeds from equipment disposals	1 506 404	734 093
Proceeds from land disposals	2 805 495	4 032 762
Additions to gravel inventory	(6 362 871)	(31 567 735)
Additions to fixed assets	(12 864 792)	(8 794 377)
Systems development costs	(349 750)	—
Purchases of land	(6 324 642)	(6 130 145)
	(17 801 887)	(29 081 320)
INCREASE IN PROVINCIAL TREASURER'S ADVANCE	\$ (13 436 634)	\$ (23 855 422)

NOTES TO THE FINANCIAL STATEMENTS

March 31, 1987

NOTE 1 AUTHORITY

The Transportation Revolving Fund operates under the authority of the Department of Transportation and Utilities Act, Chapter D-30, Revised Statutes of Alberta 1980, as amended.

NOTE 2 SIGNIFICANT ACCOUNTING POLICIES**(a) BASIS OF ACCOUNTING**

The Transportation Revolving Fund records revenues and expenditures on the accrual basis.

(b) INVENTORY

The Transportation Revolving Fund is used to finance the acquisition of gravel and land to be used by the Department of Transportation and Utilities. All expenditures made by the Fund for gravel and land are held in inventory and are recoverable from the department.

Gravel inventory is valued at cost less billings to the department.

Land inventory is valued at cost less recoveries from third party rentals.

Material inventories are valued at the lower of cost and net realizable value. Portions of lumber and petroleum product inventories are held by third parties.

(c) FIXED ASSETS

Fixed assets are recorded at cost.

Rental equipment is depreciated on a straight-line basis with the exception of $\frac{1}{4}$ ton trucks which are depreciated on the basis of kilometres used. The approximate useful life of major equipment categories is as follows:

Light trucks	4 or 5 years
Heavy trucks	7 or 10 years
Graders, tractors, loaders, trailers and cranes	10 or 15 years

Shop equipment is depreciated on a 20 per cent declining balance.

(d) DEFERRED SYSTEMS DEVELOPMENT COSTS

Development costs relating to the Equipment Management System are deferred. These costs will be amortized commencing in the year that system development is completed.

NOTE 3 ACCOUNTS RECEIVABLE

Accounts receivable are summarized as follows:

	1987	1986
Trade accounts receivable	\$ 8 333 330	\$ 17 023 740
Recoverable from the Department of Transportation and Utilities	1 560 955	—
	\$ 9 894 285	\$ 17 023 740

NOTE 4 MATERIAL INVENTORIES

Material inventories are summarized as follows

	1987	1986
Parts and supplies	\$ 14 612 623	\$ 13 507 267
Lumber	2 216 916	1 980 738
Work in progress	529 724	750 904
Petroleum products	319 081	416 008
	\$ 17 678 344	\$ 16 654 917

NOTE 5 GENERAL AND ADMINISTRATION EXPENSES

Repair shops, warehouse facilities, head office accommodations, basic office equipment and furnishings and certain salaries and wages are provided by the Province of Alberta at no cost to the Fund, and accordingly are not reflected in these financial statements.

NOTE 6 STATUTORY APPROPRIATION

In the Public Accounts of Alberta, the net expenditures of the Revolving Fund are included in the Department of Transportation and Utilities expenditure statements. Because the General Revenue Fund records fixed asset acquisitions as expenditures and does not recognize inventories, the following adjustments are required to arrive at the net expenditures reported as the statutory appropriation in the Public Accounts:

Net profit for the year	\$ (4 677 503)
Net equipment acquisitions	12 263 127
Systems development costs	349 750
Net increase in inventories	
Materials	1 023 427
Land	3 519 147
Gravel	2 574 602
	15 052 550
Less: Depreciation	8 167 766
Statutory appropriation for the year	\$ 6 884 784

NOTE 7 COMPARATIVE FIGURES

The 1986 figures have been reclassified where necessary to conform to 1987 presentation.

NOTE 8 APPROVAL OF FINANCIAL STATEMENTS

These financial statements were approved by management.

Financial Services Branch

The Financial Services Branch prescribes and implements financial and reporting control systems and financial policies and procedures, the intent of which is to ensure departmental consistency and compliance with the Financial Administration Act and related Treasury Board Directives. The branch designs, implements and manages departmental financial systems, co-ordinates the departmental financial planning activities and provides financial information required for management decision making purposes.

As a result of a reorganization within the Administration Division, records management and word processing responsibilities were transferred to the Information Services Branch and the remaining administrative services responsibilities to the Transportation Revolving Fund. In exchange, Financial Services Branch was assigned responsibility for the Revolving Fund accounting and financial reporting functions. Twenty-three financial staff members were transferred from the Revolving Fund to the Financial Services Branch.

Highlights

Financial System and Methods concentrated on implementing the Financial Reporting and Control System (FRACS) and Central Financial System/Departmental Financial System (CFS/DFS), the system which will replace the Alberta Financial Information System (AFIS). Operational support was provided to the users of the first module of FRACS. Members also worked with representatives from the various branches, regions and districts to finalize the user requirements for the second module of FRACS as well as with the

consultants contracted to develop it. The three phases of the second module are targeted to be implemented during fiscal 1987/88. A team of three managers from within the branch continued to be dedicated to the implementation of CFS/DFS which has been deferred by six months to October 1, 1988 at the request of Alberta Treasury and which has been expanded to include the Utilities operations. FRACS and CFS/DFS are designed to work together to provide the financial information required by the department.

The Accounting Operations Section processed over 405 000 documents while attaining a mean processing time of 31 days. The increase in volumes over 1986 is due largely to the inclusion for the first time of the Revolving Fund document count. During the period accounts receivable staff were transferred from Equipment Supply and Services Branch to the Securities and Revenue Accounting unit of the Accounting Operations Section. In support of these consolidation efforts a microcomputer based accounts receivable system was installed.

The Financial Planning and Control Section co-ordinates the development of the department capital and operating budgets and provides financial planning information and analysis to the department. Expenditures are monitored to ensure that they are within legislative and departmental controls. A total of 988 insurance claims was processed through Risk Management and Insurance Division of Alberta Treasury.

BUDGET ESTIMATES, TRANSFERS AND EXPENDITURES CLASSIFIED BY CONTROL GROUP GENERAL REVENUE FUND

	1986/87 Budget Estimates	1986/87 Special Warrants	1986/87 Transfers	1986/87 Total Authorization	1986/87 Actual Expenditures
Manpower	\$ 131 715 780	\$ (75 575)	\$ 2 545 000	\$ 134 185 205	\$ 133 049 001
Supplies and Services	535 566 172	2 651 713	(2 545 178)	535 672 707	533 674 047
Grants	338 347 179	2 000 000	—	340 347 179	321 685 971
Fixed Assets	12 802 512	—	—	12 802 512	7 867 765
Other	51 720	—	178	51 898	48 825
	\$ 1 018 483 363	\$ 4 576 138	\$ —	\$ 1 023 059 501	\$ 996 325 609
Operating	\$ 239 117 696	\$ —	\$ 1 308 000	\$ 240 425 696	\$ 230 639 844
Capital	\$ 779 365 667	\$ 4 576 138	\$ (1 308 000)	\$ 782 633 805	\$ 765 685 765

BUDGET ESTIMATES, TRANSFERS AND EXPENDITURES CLASSIFIED BY VOTE GENERAL REVENUE FUND

		In Thousand \$				
		1986/87 Budget Estimates	1986/87 Special Warrants	1986/87 Transfers	1986/87 Total Authorization	1986/87 Actual Expenditures
Vote 1	DEPARTMENTAL SUPPORT SERVICES					
	Executive Services - Transportation	\$ 1 574	\$ —	\$ —	\$ 1 574	\$ 1 581
	Administrative Services - Transportation	12 478	—	—	12 478	10 737
	Executive/Administrative Services - Utilities	2 105	—	—	2 105	1 834
		16 157	—	—	16 157	14 152
Vote 2	CONSTRUCTION AND MAINTENANCE OF HIGHWAYS					
	Program support	43 000	—	—	43 000	41 302
	Improvement of primary highway system	235 936	(1 075)	685	235 546	240 357
	Improvement of rural-local highways	147 793	3 651	3 445	154 889	154 941
	Financial assistance for rural-local highways	44 739	2 000	—	46 739	46 552
	Maintenance of primary highway system	73 425	—	90	73 515	73 514
	Maintenance of rural-local highways	18 345	—	1 098	19 443	19 467
	Rural resource roads	50 106	—	2 000	52 106	51 260
	Pavement rehabilitation	41 097	—	(7 318)	33 779	32 224
		654 441	4 576	—	659 017	659 617
Vote 3	CONSTRUCTION AND OPERATION OF RAIL SYSTEMS	9 800	—	—	9 800	7 891
Vote 4	CONSTRUCTION AND MAINTENANCE OF AIRPORTS					
	Construction of airports	7 500	—	(120)	7 380	5 827
	Maintenance of airports	2 442	—	120	2 562	2 560
		9 942	—	—	9 942	8 387
Vote 5	SPECIALIZED TRANSPORTATION SERVICES	12 348	—	—	12 348	11 667
Vote 6	URBAN TRANSPORTATION FINANCIAL ASSISTANCE					
	Program support	782	—	—	782	636
	Financial assistance (Capital)	127 000	—	—	127 000	121 769
	Financial assistance (Operating)	22 177	—	—	22 177	22 119
		149 959	—	—	149 959	144 524
Vote 7	GAS UTILITY DEVELOPMENT					
	Financial assistance for natural gas	20 964	—	—	20 964	14 967
	Engineering and technical support	2 325	—	—	2 325	2 050
	Gas Alberta	1 769	—	—	1 769	1 291
	Finance and business advisory services	747	—	—	747	746
		25 805	—	—	25 805	19 054
Vote 8	NATURAL GAS PRICE PROTECTION	13 409	—	—	13 409	13 187
Vote 9	ELECTRIC DEVELOPMENT					
	Electric development services	1 074	—	—	1 074	896
	Financial assistance for electricity	1 235	—	—	1 235	450
		2 309	—	—	2 309	1 346
Vote 10	FINANCIAL ASSISTANCE FOR WATER AND SEWER	77 734	—	—	77 734	73 230
Vote 11	ELECTRIC ENERGY MARKETING AGENCY	46 579	—	—	46 579	43 270
		\$ 1 018 483	\$ 4 576	\$ —	\$ 1 023 059	\$ 996 325

REVENUE CLASSIFIED BY SOURCE

	1987	1986		
Payments from Government of Canada	\$ 229 504	252 778	Other Revenue	
Fees, Permits & Licences			Refunds of expenditures	
Motor Transport Branch	6 003 322	6 343 305	Previous year's refunds	\$ 3 563 448 \$ 2 819 740
Airport Revenue	184 973	242 704	Other	176 701 259 688
Other	48 965	46 584	Sales of assets	
	\$ 6 237 260	6 632 593	Land	274 019 69 142
			Other	6 209 7 840
			Miscellaneous	
			Rentals	619 450 586 626
			Other	2 531 876 457 722
				7 171 703 4 200 758
			Total Revenue	\$ 13 638 467 \$ 11 086 129

Information Services Branch

Information Services Branch develops, maintains and supports computer based systems for the department. In addition the branch is responsible for the provision of word processing and records management services. The branch consists of the following sections:

Systems Planning

Systems Planning is responsible for the development of long and short range departmental data processing plans and for the operations of the data communications network and the departmental interactive graphics system. This section also provides word processing, data entry and remote job entry services.

Engineering Systems

Engineering Systems is responsible for the design, development and maintenance of computer based systems used by technical and engineering staff in the department.

Administrative Systems

Administrative Systems is responsible for the design, development and maintenance of computer based systems to support administrative functions within the department.

Records Management

Records Management is responsible for the development of policies and procedures to manage the storage, access and disposal of records created in the department.

Several of the more significant undertakings are described below.

Strategic Information Systems Planning

This project is a component of the department's overall thrust towards strategic planning. It was initiated in September 1985 by Executive action and has continued through the 1986/87 fiscal year. Completion of this initial cycle is targeted for October 1987. During the reporting period the project completed its facilitation role in defining the department's Mission, Goals and Objectives. Current systems and data files, along with the organization and practices of the Information Systems Branch, were assessed. Management of the department in co-operation with the project team assembled a comprehensive model of the department Business Areas, Functions, and Processes. To this work, locations, organizational responsibility, data requirements, current systems and data collection support have been added.

Based on this model of the department and assessment of the current systems, management issues and trends, the project has begun to define

the "target" systems and data structures for shared data, integrated systems and technology application.

Some of the projects undertaken by the branch during the reporting year were:

Electronic Data Processing (EDP) Inventory System

This system was developed to keep track of all computer hardware, and software packages in use by the department. The information contained in the inventory is used for purposes such as insurance claims, and audit references. The system is developed using FOCUS, a database system which uses fourth generation language.

Microcomputers

During the 1986/87 fiscal year 36 additional microcomputers were acquired for use by the department bringing the total installed base to over 90 microcomputers. A survey of microcomputer usage within branches was done and it indicated that these machines are being used in over 70 applications throughout the province. In order to continue to service the needs of these users an Information Center was set up.

Regional Network

Upgrading and expansion of our Regional Mohawk System Network continued during the 1986/87 fiscal year. Successful pilot projects for graphics terminals at three district offices were completed. These graphics terminals allow on-line preview of cross-section and highway alignment plots generated on the Alberta Public Works Supply and Services (APWSS) mainframe computers thus avoiding paper plots generation of APWSS and subsequent mailing of these plots to district offices. This results in a very significant time saving.

In addition, hardware and software was installed on every Regional Mohawk Station so that the survey data collected on Electronic Fieldbooks could be transmitted to the APWSS mainframe computers via the existing communication lines.

Highways Inventory System

The first phase of the development of the Highways Inventory System was completed in May 1986. This system will provide a single authoritative source of detailed as-built road data to the whole department in an on-line road database into a complete and comprehensive database of all roads data which support all work processes in the department that deal with road information. The database is the first of a series of "subject databases" to be constructed under the auspices of the Strategic Information Systems Plan in the department's effort to manage data as a corporate resource.

Operating Authorities System

The Operating Authorities System was implemented to provide 24 hours on-line access by Highway Patrol and vehicle inspection stations to generate information on carriers in order to effectively provide enforcement. This reduces misunderstandings between Motor Transport Board/Branch and the shipping/trucking industry and reduces the cost to the trucking industry.

Culvert Design System

This system was completed and includes the following functions: Channel Hydraulics, Hydraulics, Geometric Design and Structural Design. The system is available to Regional Bridge Engineers as well as the Bridge Engineering Branch in Edmonton. It is an on-line system with options to provide printed reports.

Bridge Information and Management System

The first release of this system was implemented. It provides a facility to store and retrieve bridge inspection information on all bridges on provincial roads. Bridge inspectors are able to retrieve current bridge information before performing a bridge inspection. After inspection, bridge information is updated.

Prestressed Units Inventory System

This system is used by the Materials Section of Bridge Engineering Branch to keep track of production and accounting information relating to purchase of prestressed concrete bridge units through the Equipment, Supply and Services Branch. It allows the branch to monitor the ordering, quality control, payment, shipping and transfer of funds for each bridge unit.

Project Scheduling System

This system was rewritten for Materials Engineering Branch to accommodate additional branch users, and provide additional reporting requests.

Testing Equipment Inventory

This system, which is used by the Transportation Laboratory personnel underwent a major enhancement which provides additional reporting capabilities and more efficient processing.

Equipment Management System

Significant progress was made in the design and development of this large system that is intended to provide much improved management of the equipment fleet operated by the Equipment, Supply and Services Branch.

Financial Reporting and Control System

Development of this system is well underway. It will provide information for financial management throughout the department. The first module, which involves billing for the equipment fleet provided by Equipment, Supply and Services Branch, was put into production. This has resulted in a considerable decrease in paper flow and large reduction in the time required to reimburse the Revolving Fund.

Personnel Management Branch

The Personnel Management Branch has enjoyed a rewarding year with extensive activity in all personnel disciplines. Through the efforts of the Personnel Branch staff and the co-operation of line managers and supervisors we have assisted in the delivery of large, complex, maintenance and construction programs.

Staff turnover in the department has remained minimal. This factor combined with lack of mobility within the workforce has created opportunity for an extension of our human resource planning activity. In addition a declining size of workforce has resulted in increased interest in productivity improvement.

Considerable effort has been directed to trying to improve the environment for the staff who are exposed to the additional pressures of productivity improvement, high levels of activity with reduced complement and related stress producing phenomena.

Organization Development

Our extensive in house training program has once again been successfully implemented. Organization and Development Section faced a transitional year in 1986/87. Due to changing priorities, training programs were somewhat reduced and a great deal of emphasis was placed upon the facilitation of business planning activities in support of the Department's Strategic Plan. Significant progress was also made in the human resource planning component of the Organization Development Section with several senior management committees established to examine human resource issues.

In addition 183 employees participated in Planning for Retirement Seminars as a result of the Early Retirement Incentive Program.

Staff development activities are summarized as follows:

Training Program	No. of Participants
In House Courses	1229
Operations Training Program	1714
Personnel Administration Office (OD Division)	340
Outside Courses (Universities/others)	587
Public Works Supply and Services (Computer, Records Management)	313
	4183

Employee Relations and Payroll

Activity in the departmental Payroll and Benefits Section remained consistently high due to a variety of new projects including the implementa-

tion of negotiated salary increases and the administration of the Early Retirement Incentive Program. A number of automated systems were further implemented including the Absent Time Reporting System, the Alberta Personnel Information System (APIX) and the automated Direct Deposit System. An average of 4363 documents were manually processed monthly by payroll. It is anticipated that this quantity of documents will be reduced as automation progresses.

The Long Term Disability Program in the department was relatively stable with an average of 61 participants receiving benefits and eight on rehabilitation assignments.

The Early Retirement Incentive Program introduced January 15, 1987 met with good response with 438 employees eligible to participate. Pension counselling and payroll activity relating to this program severely strained the Payroll staff's limited resource, however the complicated process was administered successfully with minimum disruption. By March 31, 1987, 27 employees had elected to participate and had retired.

To provide insight into the Payroll and Benefit Section's activity the following statistics are provided:

Percentage of Employees on Direct Deposit	57%
Average number of Wage employees on staff	1882
Average number of Permanent employees on staff	3032
Average number of Project employees on staff	522

General Personnel Services

The departmental personnel services are delivered by a number of Generalist Personnel Administrators who are responsible for delivery of all aspects of the personnel discipline to their assigned clients.

During the period under review staffing action within the department was limited with a hiring restriction in place from November 13, 1986 to March 31, 1987. The inability to recruit replacement staff combined with downsizing requirements resulted in considerable consulting time being spent with existing managers in finding new and creative ways of getting the work done, including: combining jobs, arranging temporary secondments and job sharing and making organizational structural changes.

Employee relation concerns also continued to demand considerable time and effort. Quite a number of grievances were either warded off in the first instances or resolved without reference to adjudication through successful mediation among the parties concerned.

The following statistics summarize activity in this section:

Staffing

Number of Competitions	76
Number of Exemptions	88
Number of positions (Code 1) deleted	58
Number of Position abolishments (encumbered positions)	2

Classification

Classification Transactions	346
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Employee Relations

Number of grievances processed:

Level 1	6
Level 2	2
Level 3	10
Opted Out Appeal Review	1

Special Programs

	Number of Participants
Summer Temporary Employment Program (STEP)	105
Priority Employment Program (PEP)	40
Employment Skills Program (ESP)	23
Co-op Program	18
Apprentices	2

In summary the Personnel Branch staff continues to provide strong support to departmental Management as well as to the employees during a difficult period when resources are reducing and a requirement for increasing productivity exists.



ENGINEERING DIVISION

M.A. Kehr
Assistant Deputy Minister
G.A. Boudreau
Executive Director

Bridge Engineering Branch 17

N.M. Boyd
Executive Director

Contracts Engineering Branch 19

C.E. Shaul
Director

Design Engineering Branch 22

P.M. Evjen
Director

Materials Engineering Branch 24

L.W. Nichols
Director

Property Services Branch 26

P. Roche
Director

Research and Development Branch 27

J. Konarzewski
Director

The *Engineering Division* comprises six branches, each providing a functional support service to the roadway and airport construction and maintenance programs of the department. Overall responsibilities of the division include:

- engineering standards and specifications
- roadway and airport geometric and structural design
- bridge structural design, construction of major bridges and bridge maintenance standards
- construction contract tendering and contract administration policies and practice standards
- construction materials procurement and testing standards
- standards of right-of-way and land acquisition, legal survey and conveyancing
- development and co-ordination of applied research for all departmental programs
- engineering and technical support for all programs.

A slight reduction in funding for the department's capital construction programs, coupled with reduced provincial construction demand in other sectors led to highly competitive bidding in all types of construction tendered by the department. This in turn tended to reduce prices and the construction index for all types of work. The most significant price reduction occurred in asphalt and portland cement materials supply areas, largely influencing the overall construction cost index reduction of eight percentage points over the previous reporting year. Despite slightly lower contract prices, the incidence of third party claims continued to decline. Contract-related claims and disputes did not appreciably increase over previous years.

The fourth successive year of two per cent annual reduction in permanent staff of the division was accommodated through normal attrition management. Continued increase in computerized system utilization, plus the continued employment of private consultants for a portion of the work reduced impacts of staff downsizing on the work performance of the division.

Following a thorough review with the heavy construction industry, the department's Contract General Specifications were updated and the revised specifications implemented in the reporting year. A number of construction technical specifications were also revised and updated.

Bridge Engineering Branch again provided for Alberta Environment the bridge engineering and construction support component to the Heritage Savings Trust funded Irrigation Headworks and Main Irrigation Systems Program.

Individual reports of each of the six branches of the division follow.

Bridge Engineering Branch

Bridge Engineering Branch provides bridge design, bridge construction, structural engineering and river engineering for departmental programs. Its services consist of preliminary engineering, detailed design, material acquisition, contract preparation, construction and liaison with regional bridge staff on all bridge-related matters. These functions of the branch are accomplished within five organizational sections: Bridge Planning, Bridge Design, Bridge Materials, Bridge Construction, and Bridge Services.

Services were supplied in four major program areas: primary highway bridge construction, secondary and local road bridge construction, primary highway bridge maintenance and secondary and local road bridge maintenance.

Bridge structures were designed and built to accommodate expansion and upgrading of the province's primary highway system. These structures ranged in size from 1500 millimetre diameter culverts to crossings of major rivers, such as the North Saskatchewan River on Highway 60 at Devon. Grade separation structures accounted for a significant portion of the budget expenditure on the primary highway system.

Work commenced on a program to strengthen some of the weaker structures on the primary highway system to accommodate a proposed increase in legal truck loadings to 62.5 tonne gross vehicle weight (GVW).

Design, construction and major reconstruction of bridges on local and secondary roads, again ranging from culverts to major structures, was also undertaken.

Maintenance activities were provided for primary highways, secondary and local road bridges. Bridges were inspected, maintenance work planned and appropriate work performed. During 1986/87 the first phase of a computerized bridge inspection and maintenance system was developed. Developmental work continued on ways to restore and protect bridges from attack by de-icing salt. The use of concrete sealers was expanded on both new construction and existing bridges. Thin epoxy overlays and membrane and asphalt systems were used to waterproof and protect bridge decks. Concrete reinforced with steel fibres was used as a tough deck overlay material. Fibre reinforced concrete was also used in shotcrete applications to restore areas of deteriorated concrete.

In addition to the major work performed in these areas under the direct responsibility of the Bridge Engineering Branch, engineering services were also provided for programs administered by other branches and departments. The branch was again assigned responsibility for the design and construction of new bridges related to the rehabilitation program for main canal systems in southern Alberta. Overall responsibility for this program belongs to Alberta Environment with funding by the Alberta Heritage Savings Trust Fund. Eighteen bridges were built under this program during this period. Branch staff also provided bridge engineering input into the administration of the department's Urban Transportation Program.

Major Bridge Construction Projects

NORTH SASKATCHEWAN RIVER, at Devon: In conjunction with upgrading of Highway 60 to a four-lane divided highway, construction commenced on two new bridges to replace the existing narrow substandard steel trusses across the North Saskatchewan River. The twin bridges will improve safety and provide a four-lane facility through the river valley.

GRADE SEPARATIONS AND CNR OVERPASS, at Entwistle: Construction commenced on the multilaning of Highway 16 through Entwistle which included the construction of the Highway 16/22 interchange, CNR overpass and two pedestrian underpasses. The new facility will improve safety for the heavy traffic on the Yellowhead Highway from Edmonton to Jasper.

SHEEP RIVER, near Aldersyde south of Calgary: Reconstruction of the girders and deck of the existing southbound bridge was carried out in conjunction with the multilaning of Highway 2 to accommodate three lanes of southbound traffic. The divided multilaned facility will improve the safety and service for the high volume of traffic using this highway.

CNR OVERPASS E. EDSON TRUCK ROUTE, at Edson: Construction commenced on an overpass to carry traffic over the CNR tracks at Edson. In addition to being a truck route around Edson, the new structure will accommodate heavy industrial and timber loads, and local traffic.

MCLEOD RIVER, at Whitecourt: Construction was begun on a major new bridge across the McLeod River in conjunction with improvements to Highway 43 through Whitecourt. The new open deck bridge will accommodate extra heavy industrial loads, Highway 43 traffic and local traffic. The new bridge will replace narrow substandard trusses which will be removed upon completion of construction.

GRADE SEPARATIONS AND VERMILION RIVER, near Vegreville: Construction was begun on the Highway 16X Express Route around Vegreville which included the construction of two directional interchange structures and a new bridge across the Vermilion River. These bridges are part of the program to upgrade Highway 16 to a modern facility to improve the safety and service for the high volumes of traffic using this highway.

BRAZEAU DAM SPILLWAY, S.W. of Lodgepole on Sunchild Road: Sunchild Road is being developed as a major north-south arterial road which serves resource and recreation traffic between Rocky Mountain House and Lodgepole. The existing spillway structure was modified to increase the road width and load capacity in conjunction with improving the alignment through the Brazeau Dam development.

ELK RIVER, at Elk River Road, West of Lodgepole: This road is being upgraded to provide an increased level of service for the oil and gas industry and for recreational use. A large diameter steel culvert was installed to improve the road alignment through the valley.

SWITZER DRIVE GRADE SEPARATION, at Hinton: Construction commenced on the multilaning of Highway 16 through Hinton which included the twinning of the existing Switzer Drive Grade Separation structure. This project is part of a program to upgrade Highway 16 to a modern multilane standard to improve safety. The existing bridge will remain in service to carry eastbound traffic.

BEAVER RIVER, south of LaCorey: A new bridge was constructed on Highway 41 to replace the existing substandard girder bridge in conjunction with the upgrading of this roadway to highway standards. The existing concrete piers now support a higher and wider open deck bridge which will improve the safety of this crossing.

HEART RIVER, east of Nampa: A new modern bridge was constructed to replace a substandard one-lane steel truss carrying a main local road. The new bridge will better accommodate the movement of farm machinery and allow heavy loads to use this crossing.

OTHER BRIDGE CONSTRUCTION PROJECTS

On Primary Highways

HWY NO.	PROJECT	BRIDGE TYPE
River Bridges		
2	Athabasca River, Hondo	Strengthen
**	2 Mooney Creek, Slave Lake	Concrete girders
2	Nine Mile Creek, Slave Lake	Concrete girders
2	Peace River, Dunvegan	Strengthen
•	16 Pembina River, Entwistle	Paint Trusses
33	Morse River, Swan Hills	Concrete girders
35	Meikle River, Hotchkiss	Strengthen
35	Melito Creek, High Level	Concrete girders
•	36 SMRID Canal, Site 44A, Taber	Concrete girders
**	SR 940 Fallentimber Creek, Longview	Concrete girders
**	SR 940 Highwood River, Longview	Concrete girders
**	SR 940 Brown Creek, Nordegg	Concrete girders
Grade Separations		
*	2 CNR Overpass, Peace River	Extend Steel Bridge

On Secondary Roads and Local Roads

River Bridges		
**	SR 505 St. Mary Dam Spillway	Salvage Trusses and Concrete Girders
***	SR 520 Trout Creek, Claresholm	SPCSP culvert
***	Local Foothills Creek, Brockton	SPCSP culvert
***	Local Clearwater Creek, Nisku	SPCSP culvert
***	Local Fallentimber Creek, Sundre	Concrete girders
***	Local Fish Creek, Priddis	Composite concrete/SPCSP culvert
	Local Carrot Creek, Peers	Concrete arch culvert
	Local Anderson Creek, Bluffton	Concrete girders
	Local LaBiche River, Plamondon	Salvage truss
**	Local Steeprock Creek, Goodfare	Composite concrete/SPCSP culvert ***
	Local Baptiste River, Rocky Mtn. House	Salvage truss
	Local Etzicom Coulee, Foremost	Concrete girders
	Local Brewster Creek, Rocky Mtn. House	Concrete arch culvert
***	Local Elk River, Lodgepole	SPCSP culvert
***	Local Clearwater River, Ricinus	Salvage truss
***	Local Bucklake Creek, Camwood	SPCSP culvert
	Local Bragg Creek, Bragg Creek	Concrete girders
*	Local Policeman Creek, Cammore	Concrete box culvert

Strengthening Program for 62.5 tonne Loading

4 River Bridges, 4 Grade Separations, on Main Highways
Bridges over SMRID and LNID Canals, for Alberta Environment
11 Standard concrete girder bridges
4 Concrete box culverts
3 Salvage timber bridges

* Completed in 1986/87 but started in prior year.

** Commenced in 1986/87 but completion carried over into following year.

*** SPCSP means Sectional Plate Corrugated Steel Pipe.

Construction & Reconstruction of Standard Type Bridges

TYPE	PRIMARY HWYS	DISTRICT ROADS	TOTAL
Standard	3	47	50
Culvert	48	162	210
	51	209	260

Bridge Repairs

TYPE	PRIMARY HWYS	DISTRICT ROADS	TOTAL
Standard	41	194	235
Culvert	19	17	36
Major	98	137	235
	158	348	506

Contracts Engineering Branch

Contracts Engineering Branch is responsible for:

- development and upgrading of contract specifications
- preparation, tendering and administration of contracts for the construction of primary highways, secondary roads, roads to provincial parks, approach roads, airports and miscellaneous projects
- assessment of contractors' claims and recommendations on the resolution of claims
- management of the Primary Highway Lighting Program
- development of the schedule of rental rates for construction equipment
- co-ordination of environmental and archaeological management activities
- administration of construction material supply and procurement
- conducting engineering and final details audits
- engineering consultant selection and agreements.

The branch consists of four sections: Contracts Administration, Construction Claims and Standards, Environmental Management and Materials Purchasing and Administration.

Following are the highlights of the work accomplished by the branch during this reporting period.

Contracts Administration

Contracts Administration Section prepared and advertised 201 construction contracts during 1986/87. These included 132 contracts for grading, base and/or paving construction, 26 for gravel crushing, 27 for traffic signals, lighting and painting, and 16 miscellaneous contracts. The total value of these contracts, excluding materials and engineering, was approximately \$182 million.

In addition to the contracts noted above, the branch was involved in the administration of two contracts arising from invitational tenders put out by the districts or other branches.

The specification review committee completed a major review of the General Specifications and this specification was put into use January 1, 1987. In co-operation with other branches, a new end product paving specification was also developed and put into use on a trial basis. Major reviews of other standard specifications including: Culverts, Sidewalks, Aggregate Production and Stockpiling, Hauling and Asphalt Concrete Pavement were also undertaken.

An extensive review of old clauses and development of new clauses for use in contract Special Provisions was also undertaken by the branch.

Contract administration procedures included checking all tenders, processing 13 contract extensions with a value of \$718 000, processing 133 letters of credit valued at \$16 million, processing 76 subcontract approvals, processing 47 contract unit price approvals and making 21 applications to Alberta Treasury to increase contract commitments by a total of \$4 million.

Final payment estimates prepared by district staff were audited for all contracts to ensure that contract payments were according to the contract and department policy. Contractual final clearances and bonds were obtained and releases of holdback and letters of credit authorized. Third party claims under the Public Works Act and contract terms were handled.

Construction records were maintained, and unit price and costs indexes were calculated. Reports were prepared on construction and other details of the highway system.

Construction Claims and Standards

Construction Claims and Standards Section, in conjunction with other branches and regional staff, developed 51 agreements with engineering and architectural consultants for engineering studies, surveys, designs and contract supervision of roadway and airport projects and also architectural services for vehicle inspection station and rest area construction.

The department's annual Schedule of Rental Rates for Construction Equipment was updated to include newer equipment models, updated serial numbers and minor revisions. Rate reductions were imposed on older equipment including 1969 to 1977 models.

The internal engineering project review program was continued whereby a team, including experienced staff from other branches and districts, reviewed various projects throughout the province to ensure engineering excellence through uniformity of contract interpretation and project management, adequacy of and compliance with design standards. Six projects were reviewed during this year.

The section was also responsible for the assessment of contractors' claims pertaining to various roadway and airport construction contracts, and for the negotiation of equitable settlements. This year, two cases saw the first use of voluntary mediation as an option towards claim settlements without litigation. The majority of claims were resolved without mediation or litigation through consultation and negotiation between contractor representatives and departmental staff.

Roadway lighting installations under the Primary Highway Lighting Program were completed at 70 new sites. These lighting installations included 11 locations through urbanized areas, three interchanges, one roadside development, one Indian Reserve access, 39 intersections with town or village approach roads and 19 at-grade intersections. The three interchanges were illuminated utilizing partial lighting layouts which provide illumination only at the conflicting traffic movement areas.

This method allows the department to illuminate interchanges with substantially reduced capital and operating costs.

One detour, one rest area, and two industrial accesses were illuminated. Major lighting projects were cost-shared with the Towns of Stettler, Lac La Biche, Nanton, Canmore and Lacombe.

Twenty-two existing lighting systems were modified, many due to highway construction modifications. Operating costs for systems were transferred to the new cities of Fort Saskatchewan and Spruce Grove upon their incorporation as cities.

The detailed listing of the highway lighting projects are listed in the Table on this page.

Environmental Management

The Archaeological Survey of Alberta Branch of Alberta Culture, carried out extensive Historical Resource Impact Assessments of 21 department aggregate sources, which provided valuable information to assist in Alberta's heritage resource conservation program. All proposed preliminary surveys, grading projects and newly identified gravel sources were referred to them and many projects subsequently scheduled for mitigation measures.

Environmental assessments were performed on all gravel pit locations which were to be used for pavement recycling operations, and special provisions were placed in contracts to reduce possible environmental problems.

Liaison with the Air Quality Branch of Alberta Environment was maintained for monitoring the emissions of all asphalt mixing plants on department projects.

All grading designs were reviewed and referred to all other pertinent government agencies and special provisions developed for the contract documents as required. Design adjustments and remedial measures were also incorporated to reduce potential environmental problems on several projects.

Construction projects which included provisions to enhance wildlife habitat were monitored during construction and some new projects were designed to include habitat enhancement.

Material Purchasing and Administration

A total of 918 purchase orders for highway construction materials were placed to the approximate value of \$115 million.

Liaison with the Purchasing Branch, highway contractors, District Transportation Engineers, Project Managers and suppliers continued, resulting in little or no delay or project shutdown due to materials delivery.

An additional \$4.5 million of drainage and fencing material was detailed to highway construction projects from the department's central service facilities at Edmonton and Airdrie.

Accounts payable functions were carried out for two highway construction camps as well as Contracts, Materials and Design Engineering branches.

Bonding, insurance policies and final signatures were obtained for 201 construction contracts.

PRIMARY HIGHWAY LIGHTING PROJECTS DETAILED SUMMARY OF LIGHTING PROJECTS

Highways Through Towns and Villages		
HIGHWAY	THROUGH	REMARKS
<i>Alberta Transportation Systems</i>		
15	North Saskatchewan Bridge, Fort Saskatchewan	
<i>Municipal Systems Cost-Shared</i>		
1A	Canmore	
2	Nanton	
2A	Crossfield	
2A	Innisfail	
2A	Red Deer	Junction of Highway 2A and 11
2A	Lacombe	
12	Stettler	
25	Picture Butte	
33	Swan Hills	
59	Vulhalla Centre	
<i>At-Grade Intersections</i>		
JUNCTION	LOCATION	
1 & 56	W. of Bonzano	New Four-lane Construction
2 & 7	N. of Alderlyde	New Four-lane Construction
2 & 33	E. of Kinuso	Intersection upgraded
2 & SR 686	S.E. of Peace River	
2 & 59	N. of Semsmith	
9 & 21	E. of Beiseker	
14 & 17 N	W. of Saskatchewan Border	Joint project with Province of Saskatchewan
14 & 17 S	W. of Saskatchewan Border	Joint project with Province of Saskatchewan
16 & 40 N	W. of Hinton	New Four-lane Construction
16 & 40 S	W. of Hinton	New Four-lane Construction
25 & SR 519 W	W. of Picture Butte	Nighttime safety improvement
28 & SR 827	S. of Egremont	New intersection alignment
28 & 55 W	S. of Cold Lake	
40 & SR 666	S. of Grande Prairie	
43 & 32	W. of Whitecourt	
45 & SR 855 N	W. of Andrew	
55 & 92	N. of Ardmore	
63 & 69	S. of Fort McMurray	

Approach Road Intersections To Towns and Villages

HWY	ACCESS TO	REMARKS
1	Gleichen	New Four-lane Construction
1	Cluny	New Four-lane Construction
1	Bassano	New Four-lane Construction
2	Kinuso	
2	Brownvale	
2	Fairview E. Access	
2	Whitelaw	
2	Bluesky	
2A	Okotoks S. Access	New highway alignment
3	Oldman River Dam	Joint project with Alberta Environment
3	Moon River	Intersection upgraded
3	Monarch	
9	Cereal	
11X	Sylvan Lake	New highway alignment
12	Breton	
12	Winfield	
13	Hardisty	
14	Holden	
16	Kitscoty	New access Construction
21	New Sarepta, N Access	Intersection upgraded
22	Rocky Rapids	
23	Carmangay	Highway Construction
28	Bon Accord	Highway Construction
28	Waskatenou	
28	Vilna	
28	Spedden	
28	Ardmore	
34	Debolt	
35	Dixonville	
36	Duchess	
41	Wainwright E. Access	
45	Andrew	
63	Boyle W. Access	
63	Suncor	
64	Hines Creek	
69	Fort McMurray	McKenzie Boulevard Access

Interchanges

HWY	LOCATION	REMARKS
2	Big Springs Road, Airdrie	
2	Highways 2 & 37 Junction	Highway Four-lane Construction
16	16 & 16X Interchange	Highway Four-lane Construction
16	Entwistle Detour	Highway Four-lane Construction

Roadside Developments

HWY	LOCATION	REMARKS
43	Valleyview	New Rest Area

Highways Through Indian Reserves

HWY	INDIAN RESERVE	REMARKS
3	147	Access to Brocket

Modifications To Existing Systems

HWY	LOCATION	REMARKS
1	Canmore Interchange	Alignment Modification to Travel Information Centre
1	West Chestermere Lake Access	Extension
1 & 9	Langdon Corner	Retrofit
1	Brooks Interchange	Partial infill
2	Fairview	Extension
2	Cardiff Road, S. of Monville	Highway Four-lane Construction
2	2 & 34 N. of Grande Prairie	Highway Four-lane Construction
2	2 and 2A, N. of Aldersyde	Removed at-grade intersection
2A	Gaetz Ave. S. of Red Deer	Highway construction
2A	2A & Delburne Road, Red Deer	
3	Taber	Retrofit and Extension
3 & 6	Pincher Station	Retrofit
10	Rosedale	South End Extension
15	City of Fort Saskatchewan	Maintenance costs transferred to City from District
16	City of Spruce Grove	Maintenance costs transferred to City from District
16	Hinton	Highway Four-lane Construction
28 & 63	W. of Radway	Extension
35	High Level	Temporary lighting and intersection Construction
39	Thorsby	Extension
43	43 & SR 658, S. of Bluebridge	Intersection Four-lane Construction
43	Whitcourt VIS 30	Yard construction
54	Innisfail	Extension
55	Lac La Biche	Retrofit and Extension
60	Enoch Indian Reserve	Intersection construction

Design Engineering Branch

Design Engineering Branch is responsible for providing the following services for all primary highway, secondary road, airport and ancillary road construction program projects:

- * preparation of information for preliminary surveys and right-of-way requests
- * development and monitoring of geometric design and drafting standards
- * provision of detailed geometric design and drafting services
- * grading program recommendations
- * provision of computerized earthwork design quantities and preparation of contract design packages
- * co-ordination of utility relocations, and development of detailed project construction schedules for contract provisions
- * co-ordination and design of traffic signing for highway intersections
- * administration of primary highway designations
- * co-ordination and management of computerized design and earthwork final quantity processing systems including co-ordination and management of computer database storage and retrieval files for departmental graphics, survey and roadway design data
- * training of design, drafting and field personnel in computerized and earthwork applications

Highlights of the work accomplished during the reporting period follow

Roadway Design

Roadway Design Section is responsible for developing and maintaining geometric design standards, preparing right-of-way and preliminary survey requests, co-ordinating the ordering of grading construction materials, and performing or co-ordinating the detailed geometric design of all grading projects.

During the 1986/87 fiscal year detailed preliminary survey instructions for 73 projects totalling 711 kilometres were provided to Regional Transportation Division. These projects included multilane freeways and expressways with their associated loops, ramps and service roads; as well as rural, arterial, collector and local roads.

During this period, 1177 kilometres of cross-section data notes were reduced by computer and then plotted by the calcomp plotter to a reduced scale convenient for design purposes and field use.

Roadway Design Section designed 53 projects, co-ordinated and checked the design of 13 projects commissioned to engineering consultants, and provided varying degrees of assistance on seven projects designed by field staff. In summary, detailed designs for 73 projects totalling over 661 kilometres, the majority of which were primary and secondary highways, were completed during the 1986/87 fiscal year.

Design Support

Design Support Section provides both computer graphics and conventional drafting services in support of the departmental construction program. Plans were prepared for preliminary surveys, right-of-way acquisition, airport/roadway and equipment design, contract tendering, construction and maintenance. The Design Support Section also manages and provides training on computerized design, drafting and final earthwork systems.

During the last year, drafting operation workloads decreased slightly due to the economic downturn and the increased use of consultants for some projects. More than 2900 detailed engineering plans were completed in support of the department's programs of which 65-75 per cent were drafted using the Transportation Interactive Graphics System. Efficiencies gained by using this automated system enabled cuts in overtime costs while still meeting schedules with high quality drawings.

The final earthwork quantities computer system was used to generate information on 97 roadway projects and one airport grading project. In total, processing was finalized on 69 projects (775 kilometres) with most projects being completed earlier than in previous years.

During this period 30 "Electronic Fieldbook" data collectors were used by district field staff on 35 grading projects and 20 preliminary surveys. These devices helped to expedite data entry for more than 500 kilometres of survey cross-section by transferring information over telephone lines to the central data processing facilities in Edmonton.

Design Support staff also provided the following technical training and assistance:

- * ten Design Support and nine staff from other branches were trained to use Transportation Interactive Graphics dual screen workstations in drafting operations
- * forty-one Design Engineering staff were trained to use the Interactive Graphics Interpro 32 single screen workstations
- * thirty-nine district project managers and instrumentmen were trained to use the Final Earthwork Quantity System (FEQS)
- * forty-eight district staff were trained to use electronic fieldbooks for collecting and transmitting survey data
- * ten staff were trained to use ICES ROADS for roadway design
- * ten Design Engineering and 20 district staff received additional training and ongoing assistance relating to ICES COGO/ROADS enhancements which were installed in this period

- the workstake program for generation of construction workstake and second grade information on two-lane roadways was tested and put into production in October 1986
- numerous plotting and overhaul enhancements to the Final Earthwork Quantities System (FEQS) were tested for later release
- updating commenced on the ICES Training Manual and the Design Menu Systems Manual

With continuing training, development and ongoing assistance to staff in the operation of the branch's new computer design systems, this new technology is generally well accepted by field and office staff alike and as experience is gained, its benefits continue to increase.

Utilities and Planning

Utilities and Planning Section is responsible for co-ordinating utility relocation/accommodation and for removal of other physical encumbrances to facilitate timely construction of roadways. In addition this section initiates and develops contract special provisions for grading projects, co-ordinates all phases of work carried out on vehicle inspection stations, establishes utility drafting standards, prepares all utility plans, and co-ordinates high load corridor projects.

During this reporting period contract special provisions were prepared for 57 grading projects tendered by the department, including the development of detailed project construction schedules to ensure orderly construction progress.

Accommodation or relocation was arranged and co-ordinated for 455 pipelines, 305 kilometres of powerlines, and 426 kilometres of telephone cables. More than 360 detailed pipeline crossing plans were prepared and agreements were concluded for each.

Also during this reporting period this section co-ordinated the planning, design and construction of the Radway Vehicle Inspection Station and maintenance work on three other stations.

A major portion of the designated high load corridor has been completed by permanently raising or burying of aerial utility lines. The pilot project completed will provide free movement of high loads from Calgary and Edmonton to Cold Lake and Fort McMurray along Highways #1, 36, 14, 41, 28, 63 and Secondary Roads #560, 625, 797, 831, and 834, covering a total of 1114 kilometres of the highway system.

Special Projects

The Special Projects Section is responsible for all provincial and community airport planning and design, vehicle inspection station building planning/design and delivery, highway signage design and primary highway designations.

Airport work during this period included preparing 25 conceptual design alternatives on seven community and provincial airports. Designs and contract plans involving grading, drainage and asphalt overlay were completed on two airports. Runway lighting and marking design was prepared and construction was completed during this period. This section provided a support role for the installation of 10 non-directional beacons and six ARCAL (pilot activated runway lighting systems). Plans and electrical co-ordination was provided to the Aviation Branch for project tendering purposes.

New medium intensity lighting was designed for five airport runways. Flood lighting was designed for the apron and public vehicle parking at the Swan Hills Airport, for district installation.

Private engineering consultants were engaged to do the design and construction supervision work for the Red Earth Airport. The co-ordination for the design of the airport and Peerless Lake Road was done by this section. Ninety per cent of the design was completed during this year, with tendering of the project carried over to the following fiscal year.

Expansion of the High Level Air Terminal Building continued, and was carried over into the following fiscal year.

The Radway Vehicle Inspection Station was designed and construction supervised using private architectural services.

Minor kitchen and building air handling systems work was completed at the Red Deer Air Terminal Building, under supervision of a private mechanical consultant.

One primary highway designation amendment order was completed and gazetted. All signing design for new intersections, curve revisions and interchanges identified on the highway program were drafted and completed as required.

Materials Engineering Branch

Materials Engineering Branch is responsible for

aggregate supply and management
structural design of road and airport bases and pavements
testing and quality control standards and procedures for roadway and airport construction
laboratory testing and pavement mix design services
pavement inventory, performance monitoring, design standards, and surfacing program recommendations
geotechnical engineering services and standards
training of department personnel in materials testing procedures
providing consultative engineering services in materials-related matters
support of departmental construction and maintenance programs

Administration

The Materials Engineering Branch organization remained unchanged from the previous year and carried essentially the same duties and responsibilities. Reductions in staff and budgets necessitated increased efficiency, innovation and accelerated use of computerized data processing to maintain program levels and satisfy demands for essential engineering services.

Implementation of the departmental strategic business plan resulted in improved communications and increased use of human resources. The degree of engineering service which could be provided by the branch to program areas reduced slightly from former levels due to reduced staff and budget, but priority requirements were successfully met.

Aggregates Services

Aggregates Services Section is responsible for managing the aggregate supplies required for the department's construction and maintenance programs. This includes the location, sampling, assessment, acquisition and allocation of aggregates and the provision of aggregate-related specifications, and recommendations and standards for aggregate source reclamation.

During the year, 11 aggregate prospecting crews and one consultant located approximately 15.5 million cubic metres of gravel and two million cubic metres of sand.

A detailed assessment of aggregate sources was provided for 130 projects to determine the best blend of local aggregates appropriate to produce high quality pavements at reasonable cost.

Additional responsibilities included needs assessment and programming for winter gravel stockpiling, and maintenance of standards and specifications covering pit operations and reclamation.

Geotechnical Services

Geotechnical Services Section is responsible for providing geotechnical investigation, analysis and design services and standards for the planning, design, construction and maintenance of roadways, airports and bridges.

During the past year, six crews investigated 31 bridge foundation sites and 117 preliminary roadway and airport soil survey sites. Additionally, the section provided inspections and engineering services for one pile retaining wall, three horizontal drilling sites, one wick drain installation and 44 instrumentations at landslide locations. This work amounted to an accumulated drilling requirement of 44 688 metres.

Private firms provided rental equipment for the majority of the drilling program. As well, several engineering consultants were retained for a number of the larger geotechnical projects.

Surfacing Services

Surfacing Section is responsible for establishing roadway surfacing design standards and procedures, and providing designs for the department's primary highway, secondary road and airfield surfacing programs. Pavement rehabilitation and seal coat programs are recommended based on continuous inventory, monitoring and evaluation of the system pavement condition.

Other section responsibilities include: preparation of specifications for surfacing materials and construction; initiation of orders for asphalt, cement and other stabilizing agents; provision of technical and professional assistance and advice with respect to surfacing matters; and continuous assessment of the quality of departmental surfacing projects.

During the year, the pavement evaluation unit continued to gather information on the strength, smoothness and visual condition of existing roadway and airfield pavements for rehabilitation and reconstruction programming and design purposes.

Eight Benkleman Beam crews conducted 96 524 tests on 5967 kilometres of roadway. One Dynaflect crew performed 12 517 tests on 682 kilometres of roadway and 11 airports. One high speed roadmeter crew measured the smoothness of 12 302 lane-kilometres of roadway. Two pavement condition rating crews rated 4266 kilometres of roadway. Skid resistance testing was performed on 7480 lane-kilometres of paved roadways, and about 7500 metres of bridge deck.

Special material investigations were conducted on subgrades and pavements for design purposes. These investigations required 115 metres of coring on 23 projects and 369 metres of drilling and sampling on six projects.

Fifty-five frost probes, located throughout the province continued to be monitored and maintained for seasonal road ban protection of the highway system.

The quality monitoring unit stored, analyzed and interpreted quality control data from 70 base and paving construction projects. This unit provided a summary evaluation of the quality of 1986 surfacing construction, and assisted in updating specifications, training construction staff and performing various construction-related research activities.

The surfacing design unit developed 275 surfacing designs, with quantity and cost estimates, for preparation of 162 contract design packages, consisting of 14 district crushing, 15 seal coat crushing, 24 first course gravel surfacing, 27 granular base course, one cement stabilized base course, 25 combined base course and paving, 35 asphalt concrete pavement, 12 reclaim and recycle paving, four seal coat application and five miscellaneous projects. The unit also developed the department's seal coat program and prepared 21 chip washing and 37 application estimates for department seal coat camp operations involving over 1575 lane-kilometres of roadway.

Testing Services

Testing Services Section, through the Transportation Laboratory, is responsible for providing services and standards for materials and quality control testing, mix design, materials inspector training and certification, test equipment supply, and evaluation of new materials and processes.

The Transportation Laboratory performed more than 60 000 tests (this figure utilizes a new test measurement scale for the first time. Under the scale previously used, the figure would be 169 500 tests) on approximately 23 000 samples of soil, aggregate, asphalt, paint and other construction and maintenance materials. One hundred and ninety-eight mix designs and investigations were performed on asphalt and cement stabilized base and pavement materials.

Engineering consultants provide classification testing on 1326 soil samples as well as testing on concrete cylinders and chemical analysis of salt, water and miscellaneous materials.

Ten materials training courses were presented to 182 technologists and project managers, involving 55 course days and 997 man-days of training. Reductions in this area resulted largely from the fall freeze that was imposed on travel and other expenditures. Field materials manuals continued to be updated as revisions and additions became necessary.

The field services unit visited 111 construction projects to monitor and assist with plant calibrations, testing procedures, quality control and testing problems. Technical assistance was provided to the department Project Review Committee on six projects. Additionally, one technologist was assigned to the development and trial implementation of end product specifications for pavement construction.

During this fiscal year, the special projects unit continued its investigations into such products and projects as asphalt, calcium chloride, flyash, pavement reinforcement, computerized pavement roughness measurement, asphalt pavement recycling, stabilization materials and asphalt concrete segregation. Other significant research work involved two recycling emission demonstration projects, five test sections for evaluating reinforcement of asphalt concrete pavement, one site for evaluating rehabilitation of full depth pavements and three test sites to measure the effects of the use of polymer modified asphalt.

Property Services Branch

The Property Services Branch is responsible for:

- establishing provincial standards for right-of-way negotiation, purchase and management
- monitoring and accepting agreements negotiated by regional property agents
- reviewing and clearing encumbrances prior to payment for right-of-way
- administering expropriation proceedings under The Expropriation Act
- legally surveying and registering land acquired for transportation facilities
- processing bylaws and applications for road closure or cancellation pursuant to the Public Highways Development Act, the Municipal Government Act, and the Land Titles Act
- managing documentation related to payments in lieu of municipal taxes and department ownership of property

Highlights of the work accomplished during the reporting period follow for each of three functional sections of the branch.

Appraisal and Negotiation

In co-operation with the regional property managers and agents, this section assisted with negotiations, monitored land values throughout the province, and determined acceptability of purchase agreements for payment. A total of 1260 agreements were accepted and processed.

During the year 12 expropriations were commenced and 12 agreements signed under Section 30 of the Expropriation Act. Forty-four independent appraisals were carried out for the department by private appraisal consultants.

The following summarizes expropriation activity during the reporting period:

Expropriations carried over from previous years	Full Expropriations	23
	Section 30 Agreements	44
New expropriations	Full Expropriations	12
	Section 30 Agreements	12
Expropriations settled or terminated	Full Expropriations	11
	Section 30 Agreements	30

In the property management area, 136 property leases were administered for a total revenue of \$170 780. Taxes paid to Alberta municipalities totalled \$41 162. Grants in lieu of taxes in the amount of \$154 615 were also processed for departmentally owned lands.

Compensation

Compensation payments for land purchases during the reporting year were processed in the following total amounts:

Primary highways and secondary roads	\$ 3 673 298
District Roads	316 390
Stock Advance Fund - Purchases	4 867 829
Airports	—
Land Purchase Fund	—
Purchases	490 790
	\$ 9 348 307

Approximately 20 500 title searches were made in Land Titles Office, Edmonton and 10 500 in Calgary. The searches were made to determine land ownership; to assist with highway planning; to facilitate negotiations or to examine encumbrances related to payment of compensation.

Legal Surveys and Conveyancing

During the reporting period, 290 legal surveys were completed for land required for transportation facilities. Of these, 143 were commissioned to private surveyors involving 57 different surveyors, for a total cost of \$411 636 and 147 were carried out by staff land surveyors. Four hundred and six new road plans were registered at the Land Titles Office.

A summary of legal survey activities for the reporting period is as follows:

Legal Surveys	
Surveys completed	290
Conveyancing	
Titles received	102
Notifications to Registrar cancelling roads	571
Letters of Abandonment	45
Municipal Road Closure Bylaws	184

Research and Development Branch

Research and Development Branch primarily focuses on practical and applied research aimed directly at improving development, maintenance and operation of the transportation physical plant (highways, roads, bridges and airports) and departmental equipment. The role of the branch is to:

- co-ordinate all departmental research to ensure it is designed, documented and followed through according to a scientific approach
- avoid duplication of research effort throughout the department
- ensure dissemination of research results
- undertake certain research projects directly

The branch is the primary departmental contact and co-ordinator for related research activities on an international, national, provincial and local level. The research program encompassed five main areas:

- Canadian Strategic Highway Research Program (C-SHRP)
- Council of Highway and Transportation Research and Development (CHTRD) Program
- Alberta Research Council Cooperative Research Program
- University Cooperative Research Program
- Departmental Research Program

Canadian Strategic Highway Research Program (C-SHRP)

C-SHRP is a \$5 million program jointly funded by all the provincial governments and the Federal Government, aimed at maximizing the benefits to Canada of the United States \$150 million Strategic Highway Research Program (SHRP). C-SHRP consists of four sub programs:

- monitoring the SHRP program in the United States
- technology transfer of SHRP findings to Canada
- a co-operative Integral Program with SHRP
- Complementary Program for uniquely Canadian problems.

The branch has provided representation to the C-SHRP Executive and Technical Steering Committees and other areas of the department have provided representation to the Asphalt, Long Term Pavement Performance and Bridge and Structures Advisory Committees. Several pavement test sections in Alberta have been submitted to SHRP for inclusion in the Integral Program and work has proceeded to define the scope of the 15 research projects in the \$3 million Complementary Program of C-SHRP.

Alberta Research Council Cooperative Research Program

This program is jointly funded by the department and Alberta Research Council and addresses specific problems predominantly related to pavements, bridges and their associated environments. The following were conducted during the year:

- pavement management systems research
- pavement design and evaluation research
- geotechnical and materials evaluation research
- research into performance of pavement bituminous materials
- paving of aggregate roads research
- river bed scour research
- river bank protection research
- ice forces on bridge piers research
- collection of data to produce regionalized flood frequency curves for Alberta

Council of Highway and Transportation Research and Development Program (CHTRD)

The CHTRD Program is conducted through the Roads and Transportation Association of Canada (RTAC) and is jointly funded by all the provincial governments, the Federal Government and private industry. The research conducted and financially supported under this program consisted of:

- pavement condition rating system development
- uniform special crosswalks
- heavy vehicle configuration optimization (HEVECO)
- guidelines for the cost-effective use and application of dust palliatives
- bridge capacity assessment under variations in axle spacing and heavy vehicle configurations
- salt use management for water resource protection
- Loran-C coverage in Canada for aircraft navigation
- Fare collection systems and equipment
- Two-lane rural highway capacity and level of service (phase III)
- Economic impact of heavy vehicle weights and dimensions (part I)
- Economic impacts of road investment

University Cooperative Research Program

Under this program the Universities of Alberta and Calgary conducted research for the department through post-graduate theses or direct contracts. The following research was conducted:

- development of test procedures and material properties for evaluating geotextiles for soil reinforcement
- design methodology for geotextile reinforced soil slopes
- characteristics of recycled asphalt concrete materials
- evaluation of pavements with relatively low incidence of thermal cracking
- influence of asphalt cement properties on construction in Alberta
- Devon geogrid test fill research
- planning and design of passing lanes (simulation).

Departmental Research Program

Under this program the Research and Development Branch undertakes certain high priority research using its own resources or in combination with other departmental branches, regions, districts or private sector resources.

During this reporting year, the branch completed a further thirty-seven research projects and published forty-six research reports. Twenty new projects were undertaken as follows:

Safety and Equipment Research

- thermo electrically powered flashing warning lights
- review of bridge clearance signing practices
- frost detection in highway grades
- applications of ground penetration radar
- evaluation of interchange performance
- remote sensing for gravel exploration
- lighting standards and alternatives for vehicle inspection stations
- environmental testing of remote traffic data collection equipment
- APWA equipment manual research
- solar assisted infrared overheight detection system
- remote monitoring and maintenance system for airport navigation aids
- measurement of culvert strains under vehicular loads.

Materials and Operations Research

- departmental crackfiller materials and procedures
- mechanical and chemical control of vegetation in right-of-way
- non-destructive tests for determining the compressive strength of cement stabilized soils
- evaluation of automatic sand/salt metering devices
- cost benefits of using power station ash in different applications
- evaluation of pile driving analyser equipment
- effects of fracture count and size of aggregates on the performance of asphalt concrete
- effects of insulation on frost heave in highways.

Transportation Library

The Transportation Library provided a variety of information services to all branches, regions and districts, to other provincial government agencies and to the public. The library contained approximately 25 000 books, technical reports, periodical titles, reports on microfiche from the U.S. Department of Transportation, and various statutes, regulations, maps, annual reports and audiovisual items.

During the year, library staff responded to over 2400 'quick' and 700 'indepth' requests for information, ordered or renewed publications for all areas of the department and loaned over 5400 items (a 28 per cent increase from the previous year). Another 775 items were borrowed from or loaned to different North American libraries. Nearly 700 literature searches were conducted on various computerized databases as part of the library's research service, while approximately 1850 articles were sent to department staff through the current information scanning service.

During 1986/87, library staff:

- as part of "The Women's Program" organized a Career Resource Centre with pamphlets, books and cassette tapes on career development
- developed a publications purchasing policy for inclusion in the Department Policy Manual
- prepared several bibliographies ("*Research and Development Branch Publications*", "*Transportation Research Board Annual Conference, January 1986 - Selected Papers*", and "*Transportation Research Board - Selected Papers from Annual Conferences 1973-1985*").

In March 1987 a new computer system with five workstations was installed in the library. This system will be used to develop an on-line catalogue and to automate the acquisitions, serials check-in and materials circulation operations of the library for provision of more effective service.

REGIONAL TRANSPORTATION DIVISION

N. Chorney
Assistant Deputy Minister
J.A. Glowack
Executive Director

**Aviation
Section** **41**
T. Watt
Director

**Construction
Programming
Branch** **32**
C.D. Burton
Director

**Occupational Health
and Safety
Section** **38**
C. Kopeck
Manager

**Operations
Branch** **39**
G.E. Vincent
Director

**Regional
Directors** **43**

Southern Region No. 1
R. Comchi
South Central Region No. 2
B.W. Kathol
Central Region No. 3
D.J. Bussard
North East Region No. 4
H. Hetu
North West Region No. 5
C. Lenzion
Peace Region No. 6
P.J. Sawchuk

The *Regional Transportation Division* is responsible for the development, scheduling and fiscal control of the major construction programs together with management and field implementation of the construction and maintenance of the provincial transportation system. The division is comprised of the Construction Programming Branch, Operations Branch, Aviation Section and the Occupational Health and Safety Section, with the field implementation handled by six regional directors located in strategic centres throughout the province.

Specifically, the division is responsible for the programming, management and field delivery of the following elements:

- regional administration
- construction programming
- construction and maintenance of:
 - primary highways
 - approach roads
 - forestry roads
 - improvement district roads
 - campsites and rest areas
- construction of:
 - roads to provincial parks
 - vehicle inspection stations
 - Grande Cache to Grande Prairie highway
 - secondary roads
 - Kananaskis Country projects
 - provincial airport facilities
 - community airport facilities
- resource roads improvement program
- pavement rehabilitation
- construction, maintenance and operation of ferries
- maintenance and operation of forestry airstrips
- grants to counties and municipal districts
- grants to Special Areas
- Public Transportation Operating Assistance Grant
- Improvement District Trust Account Program
- maintenance and operation of provincial air facilities.

Under the construction programs, improvements were made to approximately 3133 kilometres of roadways, and maintenance operations were performed on approximately 36 145 kilometres of roadway under the primary highway and improvement district programs.

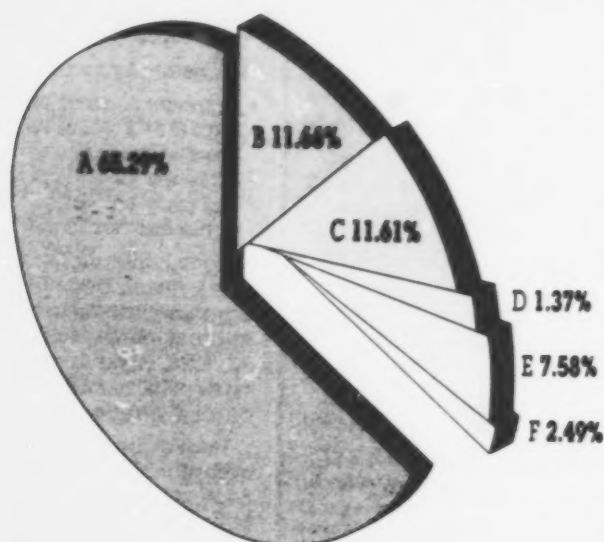
Between April 1, 1986 and March 31, 1987 the following materials were used in contract construction work on provincial primary highways, secondary roads, airports, approach roads, and provincial park roads:

First course gravel surfacing	1 081 000t
Granular base course and asphalt stabilized base course	7 882 464t
Cement stabilized base course (sand)	607 274t
Asphalt concrete pavement gravel	3 317 199t
Skid resistant surface gravel	267 900t
Recycled asphalt pavement	103 403t
Total asphalt used	246 095t
Total cement used	39 787t

Regional Transportation Division staff continued to work closely with the various municipal and improvement district councils and local people in dealing with and resolving local transportation concerns.

An analysis of Regional Transportation's total expenditures, by major categories of activity, is shown below. Details of the work undertaken by Regional Transportation's branches are reported on the pages which follow.

1986/87
REGIONAL TRANSPORTATION EXPENDITURES



- A. Major construction of primary highways (including Hwy. 40); secondary, approach, park and resource roads; pavement rehabilitation: 65.29%
- B. Maintenance of highways and ferries: 11.66%
- C. Construction and maintenance of improvement district roads: 11.61%
- D. Construction and maintenance of airports and airstrips: 1.37%
- E. Grants to counties, municipal districts, towns, villages and special areas: 7.58%
- F. Regional administration: 2.49%

Construction Programming Branch

The responsibilities of the Construction Programming Branch include assessment of budget requirements, prioritization and development of the department's road construction programs, scheduling and delivery of the construction programs, control of the associated budget components and programming, development and management of all grant programs.

The work is handled by three sections: Program Development, Program Management and Municipal Services.

Program Development

This section is responsible for system and budget analysis, program development and advance scheduling of the following major capital programs:

- Primary Highways Construction Program
- Pavement Rehabilitation Program
- Kananaskis Country Program
- Secondary Roads Program
- Resource Road Improvement Program
- ring roads and inter-city connections
- Approach Roads Construction Program
- Park Roads Construction Program
- Highways 1 and 16 Four-Lane (twinning) Program

This section is also responsible for advance program co-ordination of the primary highway construction schedule, the bridge construction program, and the Vehicle Inspection Station Program.

Program Management

The Program Management Section is responsible for the management and the delivery, within budget, of the following programs:

construction of:

- primary highways (including the twinning program for Highways 1 and 16)
- approach roads
- roads to provincial parks
- vehicle inspection stations
- secondary roads
- provincial and community airports
- Grande Cache to Grande Prairie highway
- improvement of resource roads
- pavement rehabilitation

To ensure delivery of the construction programs, the section co-ordinates, schedules and manages interdepartmental engineering activities, monitors engineering and construction activities and progress, maintains expenditure control to ensure delivery within budget and liaises with outside agencies.

Additional responsibilities include analysis of industry capability and provision of support services to the Regional Transportation Division, and contractor liaison as necessary for timely delivery of construction programs.

Construction of Primary Highways

The main emphasis of the primary highways construction program continues to be the upgrading of older highways, the strengthening of existing pavement structures, and the extension of the graded and paved network to meet the transportation demands associated with industrial, commercial, agricultural, commuter and tourist traffic throughout the province.

Multilaning of the highly congested routes continued to be a priority and construction was completed during the reporting period on:

- Highway 1, east of junction SR 842 to east of junction Highway 56
- Highway 1, north of Bassano to north of Lathom
- Highway 2, north of St. Albert to north of SR 642
- Highway 16, west of junction Highway 40 to Hinton
- Highway 16, west of Highway 47 to Edson
- Highway 16, west of Kitscoty to west of Blackfoot.

Construction continued on the following and will be carried forward for completion in 1987/88:

- Highway 16, junction of Highway 15 to west of Vegreville.

Construction was commenced on:

- Highway 1, north of Lathom to east of Southesk
- Highway 2, north Aldersyde to north of Sheep River
- Highway 16, Hinton to east of Hinton
- Highway 16, west of Highway 22 north to east of Entwistle.

Consulting engineering firms, working for the cities, towns, and villages, under the terms of an agreement with the department, made improvements to eight primary highways through 10 cities, towns and villages. Of these, one was carried forward from 1985/86 and three were carried over to 1987/88 for completion.

During the reporting period construction was completed on 762.12 route kilometres of which 64.09 kilometres were constructed under the twinning program. This included the extension of new paved surfaces on 376.09 kilometres.

Expenditures for primary highway construction totalled \$186 479 064. The different types of work undertaken by kilometre were:

	REGULAR PROGRAM	TWINNING PROGRAM HIGHWAYS 1 & 16
Grade	222 78	51 30
Granular base course	284 24	61 59
Asphalt stabilized base course	206 13	—
Cement stabilized base course	85 56	—
Asphalt surface	301 62	84 20
Recycled asphalt pavement	11 75	—
Preliminary engineering	218 68	72 92
Dust abatement	7 58	—
Skid resistant surface	657 53	—
Street improvement	0 24	—
Consulting engineering	4 00	—
Gravel	1 24	—
Reclaimed asphaltic pavement	18 68	—
Total task-kilometres	2020 03	270 01

Construction of Approach Roads

Construction of approach roads to towns, villages and hamlets located near main highway routes continued to be co-ordinated with major projects in the area. Access projects to 23 communities were under way during 1986/87; four of these projects were carried over from 1985/86, four will be carried over to 1987/88 for completion. Construction affected 48.91 route-kilometres. Expenditures totalled \$4 765 968.

The different types of work undertaken by kilometre were:

Grade	9 41
Granular base course	19 30
Asphalt stabilized base course	7 12
Cement stabilized base course	4 93
Asphalt surface	33 42
Preliminary engineering	8 68
Skid resistant surface	5 37
Gravel	1 00
Total task-kilometres	89 23

Construction of Roads to Provincial Parks

A total of 30.19 route-kilometres of road were constructed to provincial parks for an expenditure of \$2 859 123.

Major projects included completion of grading to Dry Island Buffalo Jump Provincial Park; grading, base and paving to Hasse Lake Provincial Park; base course to Dillberry Lake Provincial Park; base course and paving to Big Hill Springs Provincial Park; and paving to Kinbrook Island, Gooseberry Lake and Moose Lake Provincial Parks. Base course was commenced at Willow Creek Provincial Park and is carried over to 1987/88 for completion.

The different types of work undertaken by kilometre were:

Grade	4 60
Granular base course	20 38
Asphalt stabilized base course	13 12
Cement stabilized base course	0 52
Asphalt surface	12 56
Preliminary engineering	9 18
Dust abatement	20 00
Total task-kilometres	80 36

Construction of Vehicle Inspection Stations

The Vehicle Inspection Station Program involves the construction of entrance, exit, bypass lanes, parking areas, buildings and site development for these facilities.

Projects completed in 1986/87 included extending the parking areas and improving the drainage at the Whitecourt site and constructing a new building at the Radway site. Expenditures totalled \$388 351.

Highway 40 Project

In the 1986/87 fiscal year eight grading projects and 13 bridges were finished on Highway 40 to complete the connection from Grande Cache to Grande Prairie.

On the Forestry Trunk Road five grading projects were completed and another two grading projects were carried over to 1987/88 for completion.

With an expenditure totalling \$20 164 871, 32.11 route-kilometres were constructed on Highway 40 and 64.78 route kilometres were completed on the Forestry Trunk Road.

The different types of work undertaken by kilometre were:

	FORESTRY TRUNK ROAD	HIGHWAY 40
Grade	39 98	22 71
Preliminary engineering	21 99	—
Gravel	24 80	9 40
Total task-kilometres	86 77	32 11

Construction of Secondary Roads

Secondary road network improvements continued to be a major priority with municipal and improvement district councils. Improvements in the various construction categories were undertaken on 1138.82 route-kilometres of secondary roads.

Improvements were made to secondary roads through six towns and villages. This work was directed by consulting engineering firms working for the urban municipalities under agreement with the department.

One project was performed under an agreement with Keyano College, as a training program for equipment operators under actual field conditions.

Expenditure for the Secondary Road Program totalled \$102 336 390.

The different types of work undertaken by kilometre were:

Grade	381 20
Granular base course	391 21
Asphalt stabilized base course	362 59
Cement stabilized base course	38 41
Asphalt surface	280 18
Preliminary engineering	406 75
Dust abatement	73 70
Skid resistant surface	279 18
Street improvement	3 43
Construction engineering	22 15
Gravel	201 70
Total task-kilometres	2440 50

Improvement of Resource Roads

The demand continued, during this reporting period, for improvements to roads impacted by resource traffic. High standard roads were constructed to expedite the operation of resource and industrial traffic on a year round basis and to reduce the impact on surrounding roads in a particular area.

Improvements were made to 649.86 route-kilometres of road for a total expenditure of \$51 263 227.

The different types of work undertaken by kilometre were:

Grade	298.47
Granular base course	216.27
Asphalt stabilized base course	192.62
Asphalt surface	85.34
Preliminary engineering	277.90
Skid resistant surface	18.88
Dust abatement	30.78
Street improvement	6.30
Construction engineering	8.75
Gravel	83.17
Total task-kilometres	1218.48

Pavement Rehabilitation

Increased traffic volumes, heavier loading, an aging pavement system and highly fluctuating seasonal temperatures (as experienced throughout Alberta in recent years) has increased the severity of stress on the province's paved highways. Many of the older pavements require restoration, repair and strengthening. To protect the existing investment and structural integrity of the pavement structures, a program of pavement rehabilitation was continued and significant progress was made in restoring these older pavements to a rejuvenated condition.

During the past year, four projects included recycling of existing asphaltic pavement in areas where raw aggregates are in short supply.

Pavement rehabilitation was undertaken on 405.76 route-kilometres of highways at a total cost of \$32 220 655.

The different types of work undertaken by kilometre were:

Grade	35.26
Granular base course	35.26
Asphalt surface	392.65
Recycled asphalt concrete pavement	79.46
Reclaimed asphalt pavement	132.87
Total task-kilometres	675.50

**Airport Construction:
Provincial and Community Airports**

Among the major activities in the Provincial Airport Program was the completion of paving and the installation of a new airfield lighting system at Fox Creek. Installation of non-directional beacons continued, along with the purchase of distance measuring equipment to be installed on various airports.

The Community Airport Program saw the completion of a paved runway at Beaverlodge. New airfield lighting installations were completed at Brooks, Provost and Wainwright.

Slurry seals were applied on several airports as part of a pavement rehabilitation initiative to preserve the investment in existing airports.

Expenditures incurred in the development of airport facilities totalled \$5 826 501.

CONSTRUCTION OF PROVINCIAL AIRPORT FACILITIES

Expenditures for 1986/87

AIRPORT LOCATION	TYPE OF WORK	TOTAL EXPENDITURES
Calling Lake	Seeding, Misc.	\$ 42 687
Cooking Lake	Development Area Improvements	42 252
Fort Chipewyan	Microwave Landing System	226 679
Fort Vermilion	Lighting	24 952
Fox Creek	Lighting	38 688
Fox Creek	Paving	1 085 131
High Level	Air Terminal Expansion	1 390 407
High Level	Lighting	159 413
Lac La Biche	Development Area	11 027
Medley	Storage Building	21 808
Red Earth	Clearing, Design	220 403
Slave Lake	Lighting	48 199
Head Office	Hardware for electronic navigation aid systems and weather reporting equipment, also includes small misc. projects	580 971
Head Office	Architectural design of High Level Air Terminal	70 413
		\$ 3 963 030

CONSTRUCTION OF COMMUNITY AIRPORT FACILITIES

Expenditures for 1986/87

AIRPORT LOCATION	TYPE OF WORK	TOTAL EXPENDITURES
Beaverlodge	Lighting	\$ 22 896
Beaverlodge	Paving, clean up	524 187
Debolt	Lighting	6 498
High Prairie	Lighting	33 759
La Crete	Lighting	34 330
Provost	Lighting	30 228
Rainbow Lake	Slurry Seal	67 486
Rimbey	Lighting	10 309
Spirit River	Lighting	22 345
Wainwright	Lighting	30 324
Head Office	Purchase and install radio control runway lighting units, also includes small miscellaneous projects	287 530
		\$ 1 069 892

RUNWAY PAVEMENT REHABILITATION

Expenditures for the year ended March 31, 1987

LOCATION	TOTAL EXPENDITURES
Claresholm	\$ 141 236
Grande Cache	19 780
Hanna	5 000
Pincher Creek	85 505
Swan Hills	433 001
Whitecourt	109 037
	\$ 793 559

Municipal Services

The Municipal Services Section is responsible for the planning, program development and management of the following construction and maintenance programs within the improvement districts:

- improvement district road construction
- improvement district road maintenance
- improvement district trust account
- forestry road construction and maintenance.

The section also administers and monitors grant programs for towns, villages and rural municipalities. During the reporting period these programs involved:

- grants to counties and municipal districts
- grants to special areas
- street assistance to towns and villages
- engineering assistance program
- Public Transportation Operating Assistance Grant Program.

Additionally, Municipal Services liaises with other government departments and agencies, as well as interdepartmentally, to effect the necessary approvals and agreements for construction projects in these programs.

Improvement District Construction

A total of \$15 629 771 was expended on capital construction projects on local and secondary roads within 14 improvement districts during the reporting period.

An amount of \$9 116 912 was provided for construction of access and internal roads under the Indian Reserve and Metis Settlement Access Program.

Through the Winter Brushing Program, \$3 915 468 was expended on clearing local road rights-of-way and intersections.

The Public Lands Division of Alberta Energy and Natural Resources continued to open up new lands for settlement during this period. At a cost of \$2 153 421, 55 kilometres of access roads were constructed. This initiative was further enhanced during this reporting period, with the development of the Roads to Existing Farmlands Without Access Program. A total of \$2 066 617 was expended to construct 82 kilometres of access road in this regard.

Four improvement district hamlets benefited from the Hamlet Streets Assistance Program resulting in an expenditure of \$139 349 on road and street improvements.

Improvement District Maintenance

There are 18 926.03 kilometres of secondary and local roads in improvement districts, and 479.2 kilometres of public roads within Indian Reserves. These roads required an expenditure of \$15 246 584 for the summer and winter maintenance operations.

Improvement District Trust Account

Alberta Municipal Affairs provided the department with \$19 084 116 from tax revenues for transportation projects in the improvement districts.

The work undertaken with trust funds on improvement district roads by kilometre were:

Grade	94.6
Gravel	3927.8
Dust abatement	134.7
	4157.1

Construction and Maintenance of Forestry Roads

An expenditure of \$3 986 573 was incurred on the construction and maintenance of 3561.05 kilometres of forestry roads. The projects undertaken were established through consultation with the Alberta Forest Service Branch of Alberta Energy and Natural Resources.

Grants to Counties and Municipal Districts

The program provides grants to 30 counties and 20 municipal districts for construction and upgrading projects and related works.

The program is divided into six major sub-programs: Regular Road Grants, Dust Control Grants, Special Projects, Local Road Resource Projects, Hamlet Streets Assistance, and the Winter Brushing Program. The expenditure breakdown for each category was:

Regular Road Grant	\$ 24 140 156
Dust Control Grant	2 500 000
Special Project Grant	1 753 463
Local Road Resource Grant	3 104 306
Hamlet Streets Assistance Grant	755 285
Winter Brushing Program	1 863 791
	\$ 34 117 001

This was the first year of the Dust Control Grant Program for the counties and municipal districts. The grant is proportional to each municipality's Regular Road Grant allocations and is for dust abatement on local and secondary roads.

The Local Road Resource Program was also introduced in 1986/87. This assistance was provided to municipalities for improvements to roadways which were severely impacted by resource based traffic.

Grants to Special Areas

The department provided a regular grant of \$1 528 000 to the Special Areas Board to assist with required capital road construction projects within Special Areas 2, 3 and 4.

Alberta Municipal Affairs is the road authority for Special Areas. Forces under the direction of the Special Areas Board undertake road construction. This grant is based upon a formula which takes into account road mileages, population, terrain factors of the region and equalized assessments.

Engineering Assistance Program

This program provided \$740 064 to counties, municipal districts and special areas for the required engineering work associated with their Regular Road Grant projects. The amount allotted is based on the level of the municipality's Regular Road Grant allocation. This grant is used to engage private engineering consultants to cover engineering services provided by Alberta Transportation and Utilities.

Street Assistance in Towns and Villages

The current five year street assistance program was commenced on April 1, 1984. The program provided \$10 167 252 in the 1986/87 fiscal year for towns, villages and summer villages, for a total of 111 approved projects. Each municipality is eligible to receive their full entitlement once during the five year period. The population figure provided in June of the previous year by Alberta Municipal Affairs is utilized to determine the eligibility for each municipality annually. The program is designed as a cost-share initiative.

Public Transportation Operating Assistance Grant

The Public Transportation Operating Assistance Grant program was implemented April 1, 1979, and the program was renewed on April 1, 1985 for three years to March 31, 1988. The program provides assistance for senior citizens, the disabled and the handicapped in the development of specialized transportation services and/or, the subsidization or upgrading of the existing transportation services in a municipality.

The \$3 per capita grant funding in 1986/87 was distributed as follows:

Towns	\$ 914 421
Villages	141 822
Counties	668 751
Municipal Districts	329 565
Improvement Districts	176 739
Special Areas	18 126
	\$ 2 249 424

Improvement Districts

IMPROVEMENT DISTRICT	TRUST FUNDS	MAINTENANCE	CONSTRUCTION	FORESTRY ROADS
5	\$ 55 000	\$ 682 507	\$ 344 360	\$ —
6	300 000	278 574	30 677	121 483
7	90 000	35 402	129 536	—
8	420 000	542 804	163 503	761 202
MD 99	—	—	—	793 658
14	3 043 700	1 571 328	1 139 592	216 727
15	1 656 952	408 837	643 141	414 633
16	2 545 315	1 222 829	2 242 137	853 543
17	2 967 625	3 596 153	6 231 139	302 921
18	3 723 500	1 826 453	1 703 047	96 953
19	557 000	574 522	2 528 514	—
20	786 604	687 854	2 109 955	—
21	705 000	886 918	1 541 861	—
22	722 500	1 231 364	3 239 508	291 107
23	1 510 920	919 225	1 857 534	134 346
	\$ 19 084 116	\$ 14 464 770	\$ 23 904 504	\$ 3 986 573

Indian Reserves

IMPROVEMENT DISTRICT	TRUST FUNDS	MAINTENANCE	CONSTRUCTION	FORESTRY ROADS
2	—	135 988	561 738	—
4	—	238 262	47 596	—
6	—	66 813	2 045 404	—
7	—	96 125	128 166	—
9	—	—	—	—
11	—	124 305	1 561 211	—
12	—	115 214	3 551 884	—
13	—	469	228 397	—
14	—	—	742 471	—
15	—	4 638	250 046	—
	—	781 814	9 116 913	—
	\$ 19 084 116	\$ 15 246 584	\$ 33 021 415	\$ 3 986 573

GRANTS TO COUNTIES AND MUNICIPAL DISTRICTS*Expenditures for 1986/87 fiscal year*

COUNTY	EXPENDITURES
Athabasca	\$ 1 300 460
Barrhead	843 993
Beaver	654 844
Camrose	639 150
Flagstaff	726 599
Forty Mile	1 119 201
Grande Prairie	1 347 606
Lac Ste Anne	712 447
Lacombe	611 727
Lamont	661 348
Leduc	797 781
Lethbridge	717 256
Minburn	493 418
Mountain View	662 973
Newell	893 916
Paintearth	363 800
Parkland	886 884
Ponoka	676 828
Red Deer	645 989
St Paul	834 300
Smoky Lake	855 912
Stettler	656 222
Strathcona	691 509
Two Hills	552 274
Thorhild	710 288
Vermilion River	855 404
Vulcan	776 303
Warner	691 741
Wetaskiwin	622 053
Wheatland	574 736

MUNICIPAL DISTRICT	EXPENDITURES
Acadia	232 503
Bonnyville	713 272
Cardston	369 045
Clearwater	640 381
Cypress	571 784
Fairview	325 588
Foothills	601 758
Kneehill	528 452
Peace	275 714
Pincher Creek	440 237
Provost	630 688
Rocky View	684 543
Smoky River	1 067 191
Spirit River	232 856
Starland	389 803
Sturgeon	932 298
Taber	667 630
Wainwright	551 790
Westlock	883 548
Willow Creek	800 958
	\$ 34 117 001

ENGINEERING SUPPORT

1986/87 fiscal year

COUNTY	EXPENDITURES
Athabasca	\$ 23 454
Barrhead	9 862
Beaver	14 000
Camrose	14 322
Flagstaff	16 011
Forty Mile	22 947
Grande Prairie	29 000
Lacombe	13 000
Lac Ste. Anne	17 000
Lamont	11 000
Leduc	16 000
Lethbridge	17 562
Minburn	13 000
Mountain View	14 000
Newell	13 978
Paintearth	10 211
Parkland	21 000
Ponoka	15 000
Red Deer	17 000
St. Paul	16 000
Smoky Lake	13 000
Stettler	17 100
Strathcona	11 000
Two Hills	12 000
Thorhild	14 576
Vermilion River	20 000
Vulcan	20 676
Warner	11 799
Wetaskiwin	13 000
Wheatland	14 132
MUNICIPAL DISTRICTS	EXPENDITURES
Acadia	4 000
Bonnyville	13 000
Cardston	12 112
Clearwater	13 000
Cypress	15 268
Fairview	7 000
Foothills	15 426
Kneehill	14 285
Peace	2 191
Pincher Creek	7 786
Provost	8 429
Rocky View	19 000
Smoky River	17 000
Spirit River	1 120
Starland	12 247
Sturgeon	16 000
Taber	13 092
Wainwright	11 000
Westlock	5 177
Willow Creek	15 975
Special Areas	45 329
	\$ 740 067

STREET ASSISTANCE IN TOWNS AND VILLAGES

1986/87 fiscal year

TOWNS & VILLAGES	EXPENDITURES
Acme	\$ 84 360
Alix	15 857
Barons	60 554
Bashaw	115 000
Bassano	357 001
Beaumont	26 094
Beiseker	11 000
Birchcliff	37 378
Black Diamond	287
Blackie	1 215
Bondis	18 200
Brooks	60 000
Bruderheim	135 562
Canmore	1 328 735
Carbon	56 192
Cardston	328 680
Carstairs	81 429
Chauvin	307 431
Cluny	22 418

Clyde	2 658
Coalhurst	31 565
Cochrane	333 426
Coronation	146 440
Coutts	326 060
Cremona	77 800
Crossfield	3 974
Derwent	55 560
Dewberry	59 041
Donnelly	12 027
Drayton Valley	5 779
Eaglesham	22 480
Edberg	11 649
Edgerton	61 587
Edmonton Beach	17 301
Edson	134 134
Elmira	65 960
Entwistle	20 916
Fort Saskatchewan	122 018
Fox Creek	303 285
Glendon	25 346
Grandview	19 240
Grassy Lake	19 716
Hanna	301 375
Hardisty	99 400
Heisler	61 960
Hinton	7 407
Horseshoe Bay	6 004
Hughenden	66 040
Hythe	25 103
Irma	83 000
Irricana	37 575
Island Lake	1 956
Island Lake South	11 055
Kinuso	6 921
Lac La Biche	76 171
Lakeview	1 238
Lamont	118 956
Lavoy	55 720
Linden	81 880
Longview	50 986
Lougheed	65 880
Magrath	51 153
Manning	120 995
Mannville	108 920
Mayerthorpe	30 555
Milk River	68 125
Minburn	55 183
Mirror	89 160
Nampa	6 322
Norglenwold	22 390
Okotoks	2 262
Peace River	528 440
Ponoka	315 133
Poplar Bay	18 280
Raymond	178 364
Redcliff	9 295
Rockyford	8 845
Sexsmith	69 608
Smoky Lake	4 768
Southview	17 640
Stettler	390 952
Stirling	108 200
Stony Plain	468 280
Strathmore	215 847
Strome	67 480
Sundance Beach	9 910
Taber	572 317
Three Hills	37 202
Tilley	69 372
Tofield	30 456
Tomrington	63 313
Val Quentun	53 560
Vermilion	18 714
Veteran	3 645
Warner	7 705
Waskatenau	66 735
Whispering Hills	16 040
Whitcourt	87 204
White Gull	13 577
Willingdon	77 320
	\$ 10 167 249

Occupational Health and Safety

The Occupational Health and Safety Section is responsible for the development and management of the department's programs for occupational health and safety, vehicle/equipment safety and construction zone safety.

To discharge these responsibilities and achieve uniform and consistent safety standards throughout the department, the section provides direction to six regional safety officers who are responsible for co-ordinating and implementing the health and safety programs within each region.

The management and co-ordination of health and safety programs for other areas of the department is handled directly out of section headquarters. The section liaises with other government departments, boards and agencies and also deals extensively with the construction industry.

The department continued its active involvement in the Alberta Government Occupational Health and Safety Program. A senior department official serves as a member of the joint Government/AUPE Occupational Health and Safety Committee. Twenty-five departmental joint worksite health and safety committees comprised of employee and management representatives continued to meet regularly during the reporting period to review accidents, deal with health and safety concerns and make recommendations on corrective action.

The section continued to provide services and assistance to managers, supervisors and workers in meeting their health and safety responsibilities in many areas, some of which include:

- health and safety awareness
- chemical safety data sheets
- transportation of dangerous goods
- health and safety hazard surveys and monitoring
- accident reporting and investigation
- general operation procedures
- evaluation of personal protective equipment and other safety equipment and devices
- traffic accommodation standards and procedures
- construction safety campaign
- vehicle operator counselling
- health screening and medical surveillance
- statistical data.

A combination of formal health and safety training courses and on-the-job training continued to play a key role in the department's overall accident and loss prevention efforts. A summary of formal courses and the number of participants follows:

First Aid	318
Defensive Driving	524
Professional Driver Improvement	110
Supervisor's Accident Prevention	35
Joint Worksite Health and Safety Member Training	22
Laboratory Safety	2
Trenching-Excavation	86
Explosive Actuated Tools	6
Self-Contained Breathing Apparatus	7
Small Craft Water Survival	6
Chainsaw Safety, Use & Maintenance	41
Confined Space Entry	17
	1174

Some of the major projects the section contributed to during the reporting period include:

- development of a vehicle safety backing program for employees
- Indoor Air Quality Study - Twin Atria Building
- completion of Occupational Noise and Dust Hygiene Surveys for Equipment Operators, Mechanics and Welders
- development of a Department Smoking Policy
- departmental compliance with transportation of Dangerous Goods Legislation
- completion of Hygiene Ventilation Surveys for some repair shop facilities and recycled asphalt projects
- promotion of seat belt use by department employees
- development of recommended uniform workzone traffic accommodation standards for street and highway road construction in the province.

Following is a breakdown on the Workers' Compensation Board claims administered on behalf of the department for the fiscal year ended March 31, 1987:

Fatalities	0
Lost time injuries	261
Medical aid injuries	147
Hearing loss	1
Personal appliance (eye glasses)	18
Claims under adjudication	3
	430

Operations Branch

During the period from April 1, 1986 to March 31, 1987 the Operations Branch was responsible for co-ordinating and monitoring the following programs:

- maintenance of primary highways
- construction and maintenance of campsites and rest areas
- maintenance and operation of ferries
- administration and operation of seven construction camps

Operations Branch's mandate includes developing and monitoring standards of primary highway maintenance; the equitable distribution of maintenance allocations throughout the province; the overall responsibility for planning of programs involving rest areas, campgrounds, ferry system and department maintenance yards; plus supervision and direction of seven construction crews.

Maintenance of Primary Highways

This marked the third year in the initiative to privatize a number of maintenance functions. These include campground maintenance, snowplowing local roads, guardrail and sign installations, mowing of highway rights-of-way and seeding of highway rights-of-way. These initiatives have been in the main successful. In previous years problems were encountered with the standard of performance particularly with the highway mowing work, however this year has seen a marked improvement in this area.

Maintenance of primary highways accounted for expenditures of \$70 464 918. The types of roads maintained in two-lane equivalent kilometres are

	GRAVELLED	OILED	PAVED
Primary Highways	1 141	548	12 898
Approach Roads	13	13	337
	1 154	561	13 235

Erosion Control Program

During the 1986/87 construction season, a total of 157 erosion control projects were completed. Seven thousand four hundred and fifty-eight hectares (18 421 acres) of rights-of-way, borrow areas and gravel pits were seeded to grass and fertilized along primary highways, secondary roads, resource roads, improvement district local roads and airports.

Total expenditure was \$2 098 000. A total of 24 shifts were lost due to adverse weather.

4-H Clean-up Program

During the 1986/87 4-H Clean-up Campaign, a total of 9366 children representing 566 clubs participated in cleaning up Alberta's primary highway rights-of-way. A total of 8518.25 kilometres were cleaned with 63 745 bags of litter being collected. The clubs earned a total of \$156 625. Program expenditure was approximately \$297 700.

Signing

Major signing was undertaken on construction projects involving the installation of approximately 7000 signs. In addition to this, 300 signs with break-away bases were installed on existing and new projects. Along with this, seven overhead sign structures were installed on multilane highways. The installation of traffic signals and crosswalk signals was completed at 25 locations. The expenditure for the signing, traffic signals and guardrail installation was approximately \$4 911 200. The program also assisted the safe movement of the "Rick Hansen Tour" with signing and traffic safety through Alberta.

Guardrail Program

The raising of substandard guardrail to appropriate heights and the installation of guardrail on new projects totalled 137 400 metres.

Approximately 8400 road edge delineators were installed in combination with this work.

Skid Resistance Program

The department's two camps applied skid resistance surfacing to 639.43 kilometres of paved surface on the province's primary highway system.

Additionally, 45.75 kilometres of paved roadway on the secondary road system and 3.39 kilometres on the resource road system and 3.67 kilometres on the approach road system had skid resistance surfacing applied. A high float emulsion skid resistance surface was applied to 161.49 kilometres of secondary roads, 18.10 kilometres on the province's primary highway system and 1.70 kilometres to access roads.

The department also contracted 233.87 kilometres of skid resistance surface treatment to the private sector for a total of \$2 266 044.

The sum of \$1 237 928 was expended during the fiscal year on the crushing of suitable rock chip material. Total costs for washing of the crushed chips amounted to \$476 505.

The entire skid resistance treatment program was not completed due to poor fall weather conditions. However the projects scheduled and completed were within budget allocations.

Maintenance and Operation of Ferries

Operations Branch was responsible for allocating funds for the operation and maintenance of eight ferries throughout the province. The construction of the new bridge over the North Saskatchewan River on Highway 17 eliminated the need for the Meridian Ferry located north of Lloydminster, Alberta. Transportation and Utilities purchased Saskatchewan's 50 per cent portion of the scow and relocated it to the Bleriot site. Refurbishing

will be completed in 1987. This steel scow will provide many years of service at this location.

A new self propelled steel ferry for the La Crete Crossing is proposed for the 1987/88 fiscal year. The design was done by consultants and a contract for fabrication was awarded in February 1987. Construction should be completed in September and the ferry will see service during 1987.

The total expenditure for the operating, maintaining and upgrading of ferries was \$1 158 251.

Construction of Campsites and Rest Areas

During the 1986/87 construction season a total of \$341 500 was allotted for upgrading Alberta Transportation and Utilities' campgrounds. Upgrading included improved water supply, improved waste handling facilities, improved access, landscaping and new campground amenities. Grants totalling \$90 000 were provided to the Towns of Falher and Sexsmith and the Village of Longview to improve their campground/day use facilities. During 1986/87, the Sandy Lake Campground was transferred to the County of Two Hills and Alberta Transportation and Utilities assumed responsibility for Heritage Lake Campground. The department's inventory now stands at 100 campgrounds and five day use areas. During 1986/87 Alberta Transportation and Utilities instituted the use of the manual "Standards and Guidelines for the Maintenance of Campgrounds and Day Use Areas" in an effort to standardize maintenance procedures on a provincial basis.

The Valleyview rest area was completed and was opened to users in early 1987. A contract was awarded for the Bassano rest area in early 1987 with work tentatively scheduled for completion in the later part of 1987.

Expenditures for construction of campgrounds and rest areas were \$520 487.

MAINTENANCE OF PRIMARY HIGHWAYS

1986/87 Fiscal Year Expenditures

DISTRICT	EXPENDITURES
1	\$ 2 770 174
2	5 036 678
3	3 147 768
4	8 666 368
5	3 322 007
6	6 702 068
7	6 870 649
8	4 637 574
9	4 465 402
10	4 427 821
11	4 214 230
12	4 783 424
13	4 119 231
14	3 126 079
15	3 364 971
HEAD OFFICE	
4-H Clean-up	278 181
Welcome Signing	50 795
Rick Hansen	18 359
Laboratory Testing	398
General	462 741
	\$ 70 464 918

OPERATION & MAINTENANCE OF FERRIES

Expenditures for 1986/87 Fiscal Year

FERRY	LOCATION	EXPENDITURES
Bleriot	Red Deer River	\$ 220
Bleriot	Red Deer River	114 608
Crowfoot	Bow River	115 855
Finnegan	Red Deer River	123 757
Klondyke	Athabasca River	85 536
La Crete	Peace River	229 024
La Crete	Peace River	99 941
La Crete	Peace River	600
Meridian	Lloydminster (50% cost share)	50 090
Rosevear	McLeod River	37 874
Rosevear	McLeod River	114 074
Shaftebury	Peace River	186 673
		\$ 1 158 252

CONSTRUCTION OF CAMPSITE & REST AREAS

Expenditures for 1986/87 Fiscal Year

DISTRICT	EXPENDITURES
1	\$ 77 780
2	—
3	17 500
4	104 541
5	—
6	7 872
7	11 962
8	996
9	23 205
10	6 289
11	50 241
12	70 270
13	138 889
14	—
15	10 942
	\$ 520 487

Aviation

Aviation is responsible for the preparation and administration of the Provincial Airport Development Program.

During the year meetings were held with local officials in many communities to provide information on the Provincial Airport Development Program and give advice and assistance regarding operations.

Liaison was continued with aviation related industries and organizations. Aviation was represented on organizations such as the Alberta Aviation Council, the Air Transport Association of Canada, the Canadian Aeronautics and Space Institute and the International Northwest Aviation Council.

Background information, technical advice and position papers for senior management were provided on a wide variety of aviation subjects, as part of departmental initiatives, or in response to federal activities in both the operational and policy areas of air transportation.

During the summer of 1986, an official opening ceremony was held for the airport at Foremost. Expenditures of the headquarters component amounted to \$292 624 which covered the planning, programming and administration of aviation activities.

Included in this total were grants of \$125 000 to the Alberta Aviation Council and its subsidiary sector, the Civil Air Rescue Emergency Services (CARES). The CARES system provides training to flying personnel in the specialized task of airborne searching, and the organizational structure to mount searches for missing aircraft or other emergency situations.

Airport Operations and Maintenance

Aviation is responsible for monitoring the operation and maintenance of 16 provincial airports and 63 forestry airstrips.

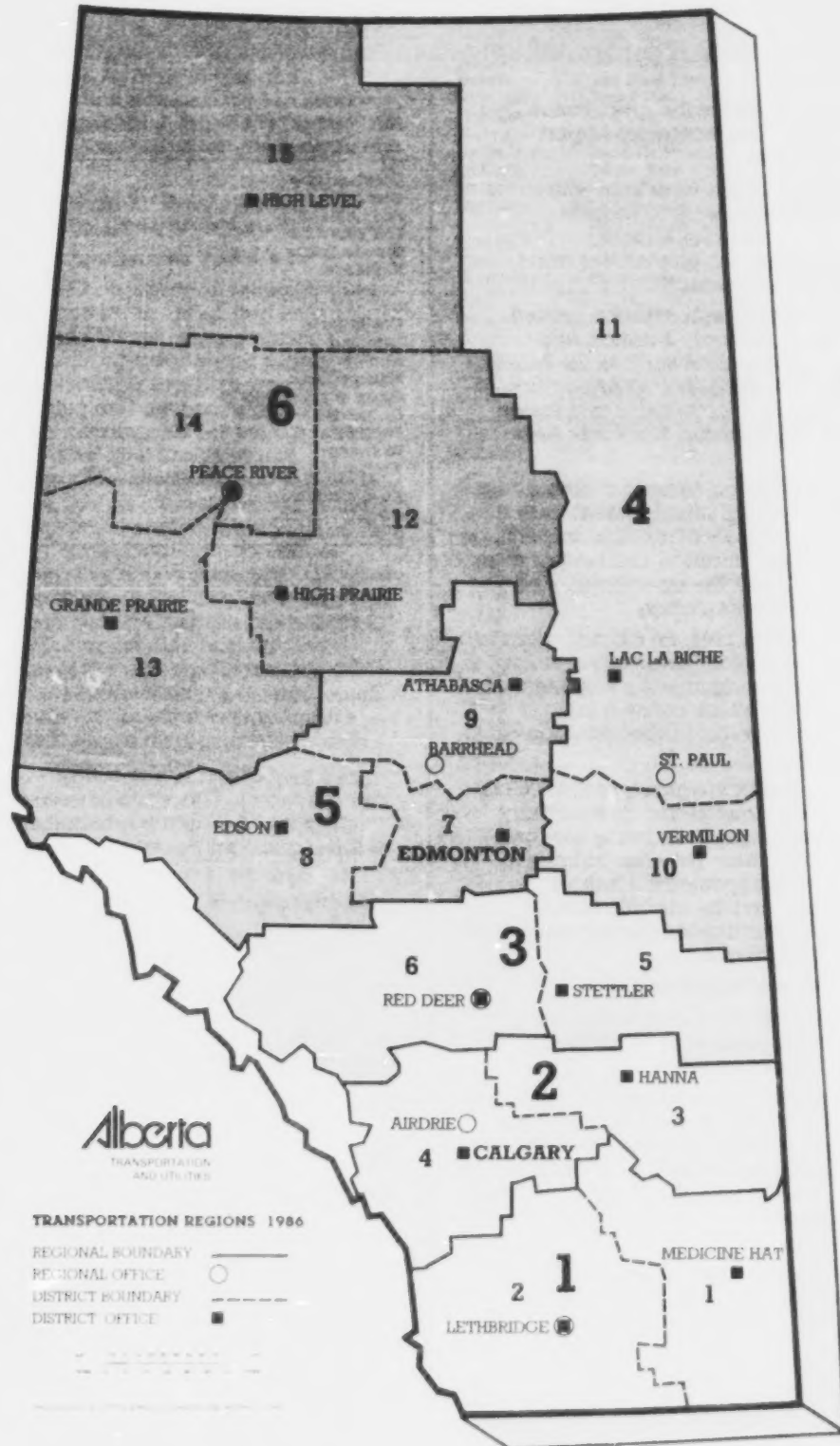
It provides support and develops standards and guidelines for maintenance and all operations. The area also has responsibility for the civilian Medley Air Terminal at Canadian Forces Base Cold Lake, and for non-directional radio beacons on community airports at St. Paul, High Prairie, and Fairview.

Expenditures on operations and maintenance activities during the reporting period totalled \$2 560 159.

AIRPORT OPERATIONS AND MAINTENANCE

Expenditures for the Year Ended March 31, 1987

Cooking Lake	\$ 133 309
Edson	123 648
Fort Chipewyan	195 060
Fort Vermilion	22 407
Grande Cache	125 061
High Level	179 389
Jasper-Hinton	127 249
Lac La Biche	116 745
Lloydminster	177 917
Manning	119 883
Medley	128 696
Pincher Creek	132 290
Rocky Mountain House	106 907
Slave Lake	162 988
Swan Hills	162 053
Wabasca	35 386
Whitecourt	150 832
Navigation Aids	122 323
Forestry Airstrips	110 373
HEAD OFFICE	127 643
	\$ 2 560 159



Regional Reports

Region 1 (Southern)

Construction in the Southern Region commenced early in the year with several projects having been carried over from the previous year. Favourable weather conditions during the spring and summer contributed to the early completion of many of the projects in the region. A wet fall caused a delay in a few projects which were carried over into the following year.

Total expenditures in Region 1 for 1986/87 were approximately \$63 million.

Maintenance activities went smoothly during the summer and winter seasons. All major activities were completed in a timely manner and as planned. Activities such as right-of-way mowing and campsite maintenance were again tendered to the private sector with generally satisfactory results. Grasshoppers were again very active in the south necessitating some control measures being taken in the Lethbridge District. A very mild winter assisted maintenance forces in keeping the highways in good driving conditions throughout the winter.

Under the combined efforts of Alberta Transportation and Utilities and Alberta Environment, local road authorities and irrigation districts, a number of irrigation bridges were replaced or rehabilitated as part of the ongoing irrigation canal improvement program. Other major structures completed in the region included: two bridges under the Highway 1 twinning program, the Oldman River bridge on SR 509 west of Lethbridge, the Belly River bridge on SR 800 south of Hill Spring, the Crownsnest River bridge at Hillcrest and the SMRID canal bridge on Highway 36 south of Taber. A new St. Mary Spillway crossing was provided on SR 505 west of Spring Coulee and the SMRID canal bridge on Highway 4 was also replaced during the year. Work continued on the Major Bridge Deck Maintenance Program with two bridge decks being restored in the region.

Other major construction highlights in the region were:

- A major twinning project comprising 13.7 kilometres was completed from north of Bassano to north of Lathom on Highway 1. The majority of work was completed on a second 16 kilometre twinning project from north of Lathom to east of Southesk. This project is scheduled for completion in 1987.
- A grading and pavement rehabilitation project was completed on SR 873 and Park Road (PR) 103 from Brooks to Kumbrook Island Provincial Park.
- Work was completed on a base course project on SR 879 south of Foremost.
- An 18.5 kilometre base course project was completed on SR 884 from north of Suffield to SR 544.

- Work continued on the major grading project on Highway 22 in the Burton Creek area as part of the program to upgrade Highway 22 from Highway 3 to Longview. A small amount of work was carried over into the following year.
- Major upgrading and paving was completed on the section of Highway 23 between Barons and Carmangay.
- Work continued on the upgrading of SR 501 in the Municipal District of Cardston and a 21.6 kilometre grading project commenced east of Milk River.
- Grading was completed on SR 509 north of the Oldman River. A carryover base course project on SR 509 north of Stand Off was also completed.
- Work commenced on the reconstruction of a new intersection of Highway 6 and SR 507 north of Pincher Creek.
- Final pavement was applied on SR 864 north of Taber.
- Grading commenced on SR 507 between Burmis and Beaver Mines.
- A 17.9 kilometre grading project was completed on SR 800 south of Hill Spring.
- Work was completed on a six kilometre grading project on SR 785 west of Fort Macleod as part of the program to provide improved access to the Head Smashed In Buffalo Jump Historic Site.
- The majority of the work on a base course project on SR 527 and PR 134 was completed providing improved access to Willow Creek Provincial Park.
- Airport runway work was completed at the Claresholm airport and the Pincher Creek water bomber base.

Close liaison was maintained with all rural and urban municipalities in the region in an effort to meet the transportation needs of these communities.

Region 2 (South Central)

In addition to the financial assistance provided to the cities of Calgary, Airdrie, and Drumheller, the department expended approximately \$83 million on the construction and operation of highways, roads, and bridges in the South Central Region. Approximately 100 kilometres of grading and 210 kilometres of pavement surfacing were completed. The number of large and small road construction projects totalled more than 100 and another 285 small bridge projects were undertaken. There were 36 contracts, and several projects were planned to be carried over into 1987.

An unusually severe spring blizzard struck the area from Calgary north and east on May 13 to 15, 1986. All major highways in the storm area were closed for periods of from several hours up to

three days. One of the spectacular affects of this storm was that although hundreds of vehicles were stranded on the busy Highway 2 route, fortunately, no one was injured. Weather throughout the remainder of the year was favourable and the 1986/87 winter was generally milder with lighter than normal snowfall.

Construction highlights during 1986/87 included:

- The twinning of the Trans-Canada Highway was completed in the south central region in 1986.
- Reconstruction of Highway 7 and 2A south and west of Okotoks was started and, also in this area, work continued on the conversion of a section of Highway 2 north of Aldersyde to a divided highway standard.
- The reconstruction and paving of an 18 kilometre section of Highway 22, from south of Bragg Creek to junction Highway 22X southwest of Calgary, resulted in a significant improvement for the numerous users of this highway.
- The reconstruction of Highway 27, between Olds and Highway 2, was completed.
- Grading, base course, and paving of the urban sections of SR 547 and SR 842 in Gleichen and Cluny were also completed.
- Secondary Road 560 from Calgary eastwards received a pavement overlay for 17.6 kilometres to the junction with SR 797 at Langdon.
- Secondary Road 567 from Highway 22 to SR 766 was base coursed and paved, completing construction of a paved secondary road link between Highway 22 north of Cochrane and Highway 2 at Airdrie.
- A 7.2 kilometre grading project on SR 575 west of Drumheller was completed. This reconstruction of the Dinosaur Trail features high cut slopes and views along the south side of the Red Deer River Valley.
- Construction was completed on SR 742, providing a surfaced link between Canmore and the Canmore Olympic Nordic Center.
- Eleven kilometres of cement stabilized base course was completed on SR 840 between Rosebud and Highway 9.
- Grading of 19.6 kilometres of SR 851 from the junction of SR 576 to Delia has now been completed. Two projects were involved, one of which had carried over from previous years.
- Under the bridge programs bridge structures were completed on SR 940 over Fallentimber Creek, Highway 1A over Big Hill Creek near Cochrane, and major deck restoration on Highway 1X over Bow River at Seebe. Major bridge projects included SR 940 over Highwood River. Bridge structures on local roads included Kneehill Creek near Linden, Fallentimber Creek near Elkton, Policeman Creek at Canmore and a bridge crossing over Fish Creek at Priddis.

In the areas of public and corporate safety, the region delivered motorist related safety presentations and lectures to students and adults. Department employees in the region were provided with several safety related training seminars. The region's workplace safety record improved over the previous year with a frequency

rate of 31.93 lost time injuries per million man hours being recorded.

Region 3 (Central)

Expenditures for construction and maintenance in the Central Region totalled approximately \$78 million.

Highlights of the major construction projects in the region were:

- Highway 2 - outside lane from Blackfalds to south of Morningside was milled and recycled to eliminate rutting conditions.
- Highway 2A - relocation south of Red Deer was completed eliminating the at-grade crossing of Highway 2 through utilization of the CP underpass. Secondary Road 595 (Delburne Road) and the access to the Westerner Exhibition & Fair Grounds was improved.
- Highway 11 - Nordegg to Banff Park was sealcoated to extend the life of the existing base course.
- Highway 11X - grading was completed from west of Benalto to the junction of SR 781.
- Highway 26 - base course and pavement was completed east of Camrose.
- Highway 36 - south of Alliance to junction Highway 53 at Forestburg was paved.
- Highway 41 - base course was completed from Highway 12 south.
- Highway 41 - Consort to Gooseberry Lake was paved.
- Highway 51 - base course was completed from Bentley to north of Leslieville.
- Highway 53 - base course was completed from Bashaw to Highway 56.
- Highway 53 - junction Highway 2 at Ponoka to west of Battle River was reconstructed and paved.
- Highway 54 - Raven River curve revisions eliminated two, 90 degree curves.
- Highway 56 - base course was completed from Highway 53 to junction SR 609.

Secondary Roads:

Grading projects on secondary roads included:

- Secondary Road 611 - Usona to Highway 2.
- Secondary Road 616 - north and east of Mulhurst.
- Secondary Road 617 - Round Hill to south of Kingman.
- Secondary Road 795 - northwest of Ponoka.
- Secondary Road 835 - Ewing Lake north to SR 594.
- Secondary Road 854 - Bawlf north to Highway 26.
- Secondary Road 884 - north of Veteran.

Base course on secondary roads included:

- Secondary Road 587 - Red Lodge Park west to Red Deer River.
- Secondary Road 592 - west of Penhold to SR 781.
- Secondary Road 599 - east of Castor to SR 872.
- Secondary Road 616 - Highway 2 to SR 795.
- Secondary Road 815 - Highway 12 to Highway 53 east of Ponoka.

Paving on secondary roads included:

- Secondary Road 597 - Blackfalds access to Highway 2A.
- Secondary Road 600 - Town of Provost.
- Secondary Road 617 - Kingman to Miquelon Lake, SR 623.
- Secondary Road 822 - Highway 53 north to Malmö.
- Secondary Road 834 - Highway 26 to Round Hill.
- Secondary Road 872 - south of Battle River to SR 603.
- Secondary Road 881 - Hardisty north.
- Secondary Road 886 - Consort south.

Access roads were paved to Cadogan, Metiskow, Alliance, Blackfalds, Kingman, Round Hill, Buck Lake and Consort.

Resource Roads:

Resource Road funding was provided for 14 projects:

- Municipal District 99 Clearwater - Bustier Creek Road - grading and paving north of Crimson Lake Park.
- County of Wetaskiwin - grading Muskeg Road west of Highway 22 - grading road west of junction Highways 13 and 2A.
- County of Ponoka - grading Anderson Pit haul road - grading Shultz Hall road.
- County of Camrose - grading Esso Plant access east of Hay Lakes.
- County of Flagstaff - grading access to Sedgewick Regional Waste Disposal Site.
- Municipal District of Provost - grading Bodo-Hayter road - grading oil well access roads - paving Gibson Tank Farm access.
- County of Lacombe - grading oil well access road.

Assistance with street improvements was provided to Alix, Bashaw, Birchcliff, Coronation, Edberg, Elnora, Grandview, Hardisty, Heisler, Hughendon, Lougheed, Mirror, Norglenwold, Ponoka, Poplar Bay, Stettler, Strome and Veteran.

Grants were provided to the respective counties for street improvements in the Hamlets of Braim, Cadogan and Erskine.

There were approximately 216 kilometres of primary highways and secondary roads paved including 49 kilometres that were overlaid under the Pavement Rehabilitation Program. Three hundred and fifty-four kilometres were completed to a base course stage. One hundred and fifty-six kilometres of primary highways, secondary roads and resource roads were graded or reggraded.

Regional staff met with the rural municipalities and a number of urban communities throughout the year to review and resolve local transportation issues.

Region 4 (North East)

Construction and maintenance expenditures for the North East Region were approximately \$101 million.

The following are some of the construction highlights for the region:

- Completion of base course on Highway 17 from junction Highway 14 to Dillberry Lake Park.
- Grading on Highway 17 from junction Highway 45 to junction SR 641. This project was jointly funded by the Provinces of Alberta and Saskatchewan.
- Completion of the Meridian Bridge on the North Saskatchewan River north of Lloydminster. This project was jointly funded by the Provinces of Alberta and Saskatchewan.
- Completion of base course on Highway 17, Dillberry Lake Park to Macklin. This project was jointly funded by the Provinces of Alberta and Saskatchewan.
- Base course commenced on Highway 26 from east of SR 854 to east of SR 855.
- Paving was completed on Highway 41 from the junction of SR 631 to junction Highway 45 using recycled material.
- Completion of grading on Highway 45 from west of Dewberry to the junction of Highway 41.
- Base course commenced on Highway 45 from west of Dewberry to the junction of Highway 41.
- Grading, base course and paving commenced on Highway 16 (twinning) from the junction of Highway 15 to west of Vegreville.
- Completion of grading, base course and paving on Highway 16 (twinning) from west of Kitscoty to west of Blackfoot.
- Reggraded and base coursed the Clamondal Access Road.
- Completion of grading on SR 619 from east of SR 897 junction to west of the Saskatchewan boundary.
- Completion of grading on SR 626 from SR 855 north junction to SR 855 south junction.
- Completion of grading on SR 631 from east of junction SR 857 to junction Highway 36.
- Grading was completed on SR 637 from east of Lamont to the junction of SR 855.
- Paving was completed on SR 637 from the junction of Highway 15 to the junction of SR 831.
- Base course commenced on SR 637 from the junction of SR 855 to west of junction SR 857.
- Grading continued on SR 641 east of SR 897 to west of Tulliby Lake.
- Completion of base course on SR 834 from the junction of SR 617 to the junction of Highway 14.
- Grading commenced on SR 855 from the junction of Highway 14 to the junction of SR 626.
- Completion of grading on SR 855 from the junction of SR 626 to the north county boundary.
- Base course on SR 857 from south of junction of SR 626 to south of Highway 16 (Vegreville).
- Completion of grading, base course and paving on SR 857 within the Town of Vegreville.
- Paving on SR 881 from north of Hardisty to the County of Flagstaff north boundary.
- Base course on SR 881 from south of Irma to Municipal District of Wainwright south boundary.
- Completion of base course on SR 881 from the junction of SR 619 to the junction of Highway 16 (Mannville).

- Completion of base course on SR 893 from the junction of Highway 45 (Dewberry) to the junction of SR 640.
- Completion of paving on SR 897 from the junction of SR 619 to the junction of Highway 16 (Kitscoty).
- Grading commenced on SR 640 from the junction of Highway 41 to east of the junction of Highway 41 (Heinsburg).
- Completion of paving on SR 831 from the Town of Lamont to the junction of Highway 45.
- Completion of base course on SR 831 from the junction of Highway 45 to the junction of Highway 28.
- Completion of grading on SR 897 from north of junction Highway 14 to south of Paradise Valley.
- Paving on Highway 15 from west of Lamont to Chipman.
- Completion of pavement overlay on Highway 28 from Ashmont to north of St. Brides.
- Completion of base course on Highway 36 from east of Kikino to north of junction Highway 55.
- Completion of grading on Highway 36 from west of Goodfish Lake to east of Kikino.
- Completion of grading on Highway 36 from the junction of Highway 28 to west of Goodfish Lake.
- Commencement of four-laning on Highway 41 from south of Elk Point to north of Elk Point.
- Completion of grading on Highway 41 from the junction of Highway 55 to Improvement District 18 boundary.
- Completion of grading on Highway 55 from east of SR 866 to west of Rich Lake.
- Grade widening, base course and paving commenced on Highway 63 from north of Wandering River to east of McMillan Lake.
- Completion of base course on SR 646 from the junction of SR 893 to the junction of SR 897.
- Completion of grading on SR 659 from the junction of SR 892 to the junction of SR 897.
- Completion of paving of SR 660 from west of Franchere to the junction of Highway 41.
- Completion of base course on SR 831 from the junction of Highway 28 to the junction of SR 661.
- Grading on SR 855 from Beaver River Metis Settlement to the junction of SR 663.
- Completion of base course on SR 857 from the North Saskatchewan River to the junction of Highway 28.
- Completion of grading on SR 881 from north of Kettle River to south of Cheecham.
- Completion of grading on SR 881 from south of Christina River to north of Kettle River.
- Completion of grading on SR 892 from the junction of SR 659 to the junction of Highway 28.
- Completion of base course on SR 897 from north of the North Saskatchewan River to the junction of SR 646.
- Completion of base and paving on Approach Road 180 from Highway 28 to Ashmont.
- Completion of grading on Janvier Access Road from the junction of SR 881 to Janvier.
- Completion of paving on PR 150 from SR 660 to Moose Lake.
- Construction of a winter road from northeast of Fort McKay to Fort Chipewyan.

- Grading was completed on 65 kilometres of roadway and 760 kilometres were gravelled in the Improvement District 18 programs.

The following summarizes projects undertaken in the region under the Primary Highway, Secondary Road, Resource Road Improvement, Twinning and Pavement Rehabilitation Programs:

- Twenty grading projects for approximately 244 kilometres of construction.
- Five combined grading, base course and paving projects for approximately 48 kilometres.
- Sixteen base course projects for approximately 303 kilometres.
- Ten paving projects for approximately 111 kilometres.

Assistance for street improvements was provided to Bruderheim, Chauvin, Derwent, Dewberry, Edgerton, Glendon, Horseshoe Bay, Irma, Lac La Biche, Lamont, Lavoy, Mannville, Minburn, Smoky Lake, Tofield, Vermilion, Waskateneau, and Willingdon.

Construction was impeded by numerous periods of wet weather during the month of July resulting in a number of projects being carried over into 1987.

A Winter Works Program for improvement of sight lines at rural road intersection was undertaken with good participation by counties and municipal districts.

Region 5 (North West)

The 1986/87 program in the North West Region had a total expenditure of approximately \$128 million for capital construction and maintenance. This was down from the previous year and since there was a corresponding downsizing of staff, no difficulties were experienced.

The construction season progressed well with most projects being completed and a minimal carryover of work being taken into 1987. Following very heavy rains during the month of July one of the most severe floods in history was experienced when a number of major rivers flooded their banks through an area extending from southwest of Edson to northeast of Westlock. Substantial damage was experienced by the farming community and a number of bridges and roads were washed out. For periods of time primary highways in the Barrhead area were closed to public travel.

Another successful Winter Works Brushing Program was completed with most municipalities taking advantage of the Intersection Clearing Program. Emphasis was placed on safe working operations and resulted in a reduction in both personal and vehicle accidents.

With regard to the construction program, the following were some of the highlights:

- The twinning program on Highway 16 proceeded on schedule with the major urban section in Hinton being opened. Work commenced on other sections on this highway with major

reconstruction, including an intersection being commenced at Entwistle.

- The new four-lane section on Highway 2 north of Morinville was opened by the Minister in the fall of 1986.
- Secondary Road 918 from Barrhead to Greencourt was surfaced throughout and taken into the primary highway system to be renumbered Highway 18.
- Highway 40 from Grande Cache to Grande Prairie was completed, introducing an important north-south link in the northwest part of the province.
- Highway 32 from Whitecourt to Swan Hills was also surfaced throughout, introducing an important new link serving the oil industry in the Swan Hills area.
- A major new bridge was commenced across the North Saskatchewan River on Highway 60 north of Devon. This work is being undertaken in conjunction with twinning of portions of Highway 60. Completion is scheduled for 1988.
- Work was undertaken on a number of secondary roads. Of particular interest was the completion of SR 630 to a four-lane divided urban standard through the community of Sherwood Park. In recognition of the major resource traffic generated in the west Pembina area SR 620 from Lodgepole to the Brazeau Dam was designated and upgraded to secondary standards. Many secondary roads, particularly in the Edmonton area, were upgraded with emphasis being placed on surfacing in recognition of the high traffic volume routes.

Region 6 (Peace)

In spite of the downsizing trend and the move to privatization initiatives, Region 6 has been a busy area in accomplishing many road programs this past year. A total expenditure of all construction and maintenance activities in this region was approximately \$165 million.

Some of the significant projects undertaken were:

- A major accomplishment was the completion of Highway 67, south of Red Earth. This involved two grading contracts completing the improvement of Highway 67 from Senex Creek south. Also, 20 kilometres of Highway 67 was base paved from the junction of SR 754 north.
- Completion of base pavement of SR 754 from Sunset House to the junction of Highway 2 (33.9 kilometres).
- In Wabasca, nine kilometres of SR 754 in Indian Reserve 166C and the arterial loop in the Hamlet of Wabasca were paved.
- A contract was awarded for the final paving of SR 750, north Grouard. Work was commenced and will be carried over.
- In the Pavement Rehabilitation Program, 24.3 kilometres in the Jousard area and 16.85 kilometres on SR 744, south of the junction of Highway 49 were done.

- The most significant project in the Grande Prairie District was the completion of Highway 40 (the Bighorn Highway) in November with the official opening scheduled for the spring of 1987. This ongoing project for the last four years which was built through some of the most difficult terrain in Alberta, was completed "on time" and "under budget". Work continues on upgrading the Forestry Trunk Road to modern standards between Goodwin and Muskeg.
- The four-laning of Highway 2 from the junction of Highway 34 to the City of Grande Prairie limits in conjunction with work done in the city was completed.
- Grading, base paving of Highway 49 from south of Belloy to south of Eaglesham was completed. This is part of a program to upgrade this road to modern standards, from the British Columbia border to Triangle.
- In conjunction with the County of Grande Prairie, regrading of the Emerson Trail (SR 672) from Highway 2 westerly was started.
- Secondary Road 676, north of Debolt was upgraded to improve this major connector to the Whitemud area.
- Work continued on grading, base paving of SR 719 from the junction of Highway 49 to north of Bonanza.
- Final paving on SR 740 from south of Tangent to south of Shaftesbury Crossing was completed.
- Also completed was the regrading of SR 667 from Hinton Trail to west of Elmsworth.

Other highlights were base coursing of SR 671, Goodfare east to Highway 2; surfacing of SR 674 from Sexsmith to Teepee Creek and SR 723 from Valhalla south to Highway 2; and final paving of SR 724 from La Glace south to Highway 2.

- Completed this past year was the final pavement on Highway 64 from the junction of SR 726 to the junction of SR 730. Only 35 kilometres of roadway remain to be surfaced to complete this important connection to British Columbia. Also, a base paving contract was awarded and started on Highway 64, east of Cleardale to south of Worsley.
- The overlay on Highway 2, Grimshaw to Berwyn was completed.
- Overlay on SR 686 from Highway 2, west of Shell Plant Access was completed and the base paving of SR 686, east of Three Creeks completes the surfacing to the Shell Plant Access.
- Paving of SR 744, south of Marie Reine was completed.
- Regrading of SR 685 in the Brownvale/Whitelaw area and of SR 732, north of Fairview continued.
- A contract was awarded and work started on surfacing of SR 692 in the Hawk Hills area.
- Construction of a new alignment continued on SR 743 in the Deadwood area.
- Clean-up and brush burning on the new alignment of SR 686 from Little Buffalo to Red Earth was completed.

Final pavement of Highway 58 from the Comet Airstrip to west of Sousa Creek was completed, as well as, selective rehabilitation of Highway 35 from north of High Level to the Northwest Territories border. The grading of SR 697, east of Tompkins Landing was continued as was the base paving of Highway 58 from High Level towards Rainbow Lake.

The Zama Access project was commenced, with summer and winter grading carried out on what will be a three year project to construct a new road to the east and north of the Hay Lakes Indian Reserve.

Winter maintenance requirements were extensive, with two metres of total snow accumulation.

On the primary highways, eight major bridges were strengthened to accommodate the heavier eight axle trucks. A new bridge was built 15 kilometres west of Slave Lake on Highway 2 and construction commenced at Mooney Creek (four kilometres west of Slave Lake). Major repair work was done on bridges at Dunvegan and the Little Smoky River, north of Valleyview. Eighteen smaller construction and maintenance projects were completed on highway bridges.

On Secondary roads, large culverts south of Goodwin and west of Goodfare were installed. Forty-three other bridges and culverts were completed in rural areas from Valleyview in the south to Zama in the north. A bridge at Driftpile was repainted by contract and several smaller bridge painting jobs were done by the crews. A major culvert reinforcing job was completed south of Wanham, and 40 other smaller repair jobs were completed on bridges throughout the region.

Experimentation with a new type of grader blade proved successful and will result in reduced costs and a better finished product in gravel road maintenance. Also, several computer programs have been developed to assist with routine tasks and make more efficient use of staff time.

The improvement most appreciated by motorists, especially in the winter, is the new type of wearing surface which has been applied to five bridges in the region, including the Peace River bridge in Peace River and the Wapiti River bridge, south of Grande Prairie. The surface consists of durable basalt rock chips held in place by a tough epoxy resin.

Regional and district personnel continue to liaise with elected officials and councils to maintain a good working relationship concerning all transportation issues.

REGIONAL ADMINISTRATION

1986/87 Fiscal Year Expenditures

REGION

1	Regional Office	\$ 804 540
	District 1	402 725
	District 2	483 954
2	Regional Office	1 059 059
	District 3	351 389
	District 4	566 910
3	Regional Office	875 737
	District 5	317 789
	District 6	463 190
4	Regional Office	828 357
	District 10	459 441
	District 11	514 572
5	Regional Office	1 219 165
	District 7	614 439
	District 8	556 398
	District 9	486 160
6	Regional Office	768 358
	District 12	371 601
	District 13	435 458
	District 14	450 192
	District 15	338 037

HEAD OFFICE EDMONTON

Aviation	292 624
RTS-H-O Safety Program	180 801
Operations Administration	571 941

\$ 13 412 637

CONSTRUCTION PROGRAMMING

1986/87 Fiscal Year Expenditures

Director's Office	\$ 227 323
Program Management	902 394
Program Development	470 923
Municipal Services	223 331
Aviation Programming	61 544

\$ 1 885 515

URBAN TRANSPORTATION AND PLANNING DIVISION

L.B. Root

Assistant Deputy Minister

Corporate Planning Services

51

M.M. Duncan
Executive Director

Planning

K.E. Howery
Executive Director

Operational Planning Branch

52

R.J. Sawchuk
Director

Urban Transportation Branch

55

G. Halls
Executive Director

The *Urban Transportation and Planning Division* is responsible for providing financial assistance to major urban areas, for transportation planning assistance to both the department and municipal authorities throughout the province and for strategic direction planning for the department. The duties are carried out through three major branches: Urban Transportation, Operational Planning and Corporate Planning Services.

Urban Transportation distributes funding assistance to the 16 Alberta cities and provides an engineering resource to these urban communities.

The Operational Planning Branch provides route location reports and functional design criteria for detailed design work.

The Corporate Planning Services is a new structure which monitors provincial traffic volumes, provides detailed traffic volume projections and provides a co-ordinated approach to departmental strategic planning.

Corporate Planning Services Branch

Corporate Planning Services was created out of the Systems Planning Branch to support the department's strategic planning mandate. The year was one of transition as the branch reorganized to take on additional responsibilities. The branch is divided into four sections: Corporate Development, Transportation Systems Planning, Traffic Engineering and Data Management Improvements.

Corporate Development

The Corporate Development Section conducted and administered the annual business planning meetings as part of the ongoing maintenance of the strategic management efforts of the department. In support of strategic management a number of briefs were prepared. Other initiatives include a series of investigations with a view toward providing the department with advanced tools for economic analysis and strategic management.

Corporate Development continued to represent the department on Federal/Provincial working committees and assumed a co-ordinating role for the Northern Alberta Transportation System Study and Interdepartmental Task Group on Recreation and Tourism Access. In addition the section represented the department in negotiations and obtained approximately \$800 000 in funding under the Canada/Alberta Northern Development Subsidiary Agreement. The group is also responsible for interdepartmental transportation related planning, corporate policy development and for promoting a more formalized approach to program evaluation across the department.

Transportation Systems Planning

Transportation Systems Planning is responsible for conducting planning studies, the majority of which involve municipal requests for changes to the secondary road and primary highway systems. They administer the program of technical and financial assistance to small urban and rural municipalities. Transportation plans or functional planning studies for Westlock, Wainwright, Drayton Valley and High Prairie were completed using program funds. This group co-ordinates comments on industrial projects through the Environmental Impact Assessment and Development and Reclamation Review processes. Responsibility for longer range planning also resides with this group.

Traffic Engineering

The Traffic Engineering Section is responsible for monitoring and forecasting travel on the provincial road network. This work in turn supports the planning and design activities of the department with current and future traffic statistics.

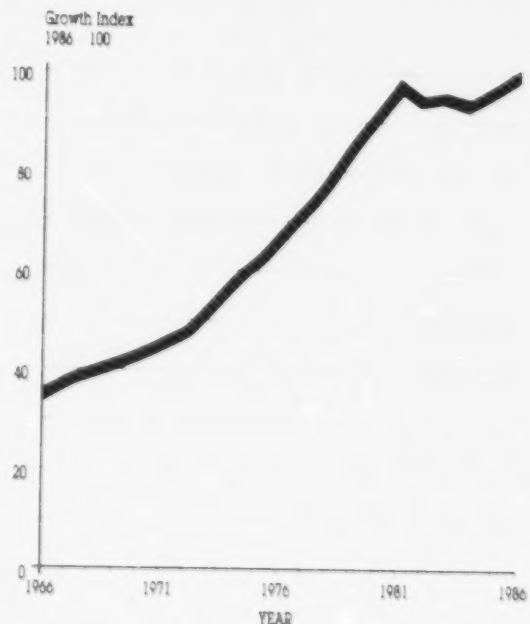
The monitoring function involved the interviewing of 51 799 motorists at 95 sites as to their origin destination and trip purpose. Year round automatic traffic recording machines were maintained at 120 sites while 1010 month-long machine counts were performed at 509 sites. At 617 intersections 1099 manual turning movements counts were conducted.

The overall growth in provincial travel in 1986 was 2.5 per cent over 1985 levels. This means that observed traffic volumes, after declining during 1982, 1983, and 1984, are now about 1.3 per cent above the previous peak volumes recorded in 1981. Over the past 21 years, or since 1966, the annual provincial traffic growth trend has been 3.6 per cent of 1986 levels. Over the last 10 years, or since 1977, this has been 3.5 per cent while over the last five years since 1982, it is 1.0 per cent.

Data Management Improvements

The Data Management Improvements Section is a temporary group which was set up to review existing data processing systems and practices. Computer technology is used extensively within the branch, particularly in the area of traffic data collection and analysis. The group's task is to recommend changes in procedures and systems so that automation is used effectively to increase productivity and reduce costs.

Traffic Growth Trend on Provincial Highways



Operational Planning Branch

Operational Planning Branch provides transportation planning services in support of the department's primary highway, secondary and other road construction programs.

Location Services and Design and Environmental Services are the two main sections within this branch. Referral Services is affiliated with the branch's administrative services.

Location Services determines alignments and access control for new and existing primary highways and bridge locations. Assistance is also provided in a similar capacity for secondary and local roads. In addition this section provides airphoto, mosaic and photogrammetric mapping services for the department and computer services for this branch.

Design and Environmental Services is mainly engaged in roadway system studies, larger urban and rural planning studies and determines functional design of intersections, interchanges, four lanes and access control. The section also undertakes roadside landscape design including major rest areas, and carries out environmental assessment and monitoring during project planning, construction and maintenance.

These sections liaise with other branches and divisions within the department, with other government departments, planning agencies, and the general public in finalizing standards, alignments and specific design features of a project.

The majority of work undertaken in these areas is provided to the department's Engineering and Regional Transportation Divisions for detailed design and project implementation.

Referral Services provides support services to the regions for issuance of development control permits and administers approvals for utility crossings on the primary highway system.

Specific projects, quantities of work completed, and a financial report are outlined in the following under the respective section headings, including the Referral Services Section.

Location Services

Highlights of road corridor and alignment studies, location surveys and photogrammetric services completed in this section follow.

Road Corridor and Alignment Studies

Studies were completed on 63 projects and another 120 projects were underway at the end of the reporting period. Some of the major projects completed were:

- Highway 16 from junction Highway 32 to west of Wildwood
- Highway 16 from west of Vegreville to junction of Highway 36
- Highway 21 from north of Park Road 133 to junction Highway 42
- Highway 21 from junction Highway 42 to junction Secondary Road 595
- Highway 43 McLeod River Bridge at Whitecourt
- Secondary Road 686 from Little Buffalo Lake to junction Highway 67
- Secondary Road 881 from Lac La Biche to Conklin, Corridor Study.

Location Surveys

Surveys were completed on 15 projects totalling 142 kilometres. These included:

- Elk River Road from junction Wolf Lake Road to junction SR 620
- Secondary Road 686 from junction Highway 67 to Peerless Lake
- Secondary Road 752 from junction SR 940 to the Forest Reserve Boundary
- Highway 16 in the Obed area.

Survey staff from Regional Transportation assisted in several projects.

Photogrammetric Services

During this reporting period more emphasis was placed on low level high accuracy mapping for design studies. In addition to the 85 597 acres of contour mapping produced, there was 2655 acres of existing imperial mapping converted and digitized and 3900 acres of mapping from other departments was utilized in studies.

Details of work performed are:

- 34 245 aerial photography prints obtained
- 6626 kilometres of new photography obtained by contract
- 136 kilometres of orthophoto mosaics produced
- 12 304 kilometres of standard mosaics constructed
- 214 kilometres of photo control surveys completed on 31 projects
- 88 252 acres of contour mapping completed from 258 triangulated models.

Design and Environmental Services

Highlights of work completed in this section follow.

Preliminary designs and revisions were completed for nine interchanges, 17 intersection improvements and 18 access control plans/reports. Thirty-nine projects involving design reviews, utility integration, boundary rationalization and development proposal reviews associated with the Edmonton and Calgary ring roads were completed. Thirty-one other projects including engineering reviews, cost estimates, traffic studies and analysis, geometric design research and other miscellaneous projects were completed. Landscape design plans, specifications and field assistance were completed for 16 projects. Preparation of environmental mitigation plans, review of environmental plans and other documents were completed for eight projects. Projects under study at end of the period numbered 107.

Some of the major projects completed during the fiscal year include:

Functional Planning and Preliminary Design

- preliminary design for interchanges at the junction of Highway 2 and 2A near Aldersyde, Highway 21 and Baseline Road, Highway 1A and Griffen Road near Cochrane and Highway 43X and a local road at Whitecourt.
- major reviews and preliminary designs for intersection improvements on Highway 21 near Delbourne and New Sarepta, Highway 12 and SR 884 at Veteran, Highway 13 and SR 603 at Hughenden, Highway 14 and SR 630 near Tofield, Highway 14 and 66 Avenue near Sherwood Park and Highway 56 near Stettler.
- preliminary design and access control reports for improving Highway 2 from Nanton to Staveland, Highway 2 from Red Deer to Innisfail, Highway 2A from Okotoks to High River, Highway 2A from Red Deer to Blackfalds, Highway 16 from Claysmore to the junction of Highway 41 and concept plans for Highway 3 from Coaldale to Taber. Detailed planning for multilaning Highway 1A from Calgary to SR 766, Highway 2 from Innisfail to Carstairs, Highway 2A from Blackfalds to Lacombe, Highway 2A from Leduc to SR 616, Highway 4 from Stirling to Lethbridge, and Highway 11 between Highways 2 and 2A is being advanced.
- preliminary access control plans and revisions for the primary highway through the urban areas of Cochrane, Cold Lake, South Red Deer, Wildwood and Whitecourt. Work is also being advanced on highway improvements in Canmore, Grande Centre, Hanna, Okotoks and Whitecourt.

- review of consultant designs and reports for the commercial development near the Wetaskiwin Rest Area on Highway 2, a drainage ditch proposal along Highway 2A near Wetaskiwin, Highway 22 through Longview, South Wye Road area structure plan; the proposed interchange for the intersection of Highway 4 and 5 at Lethbridge and the High Prairie and Westlock Transportation Studies.
- continued liaison work with Alberta Environment in the rationalization of the transportation and utility corridor including the integration of adjacent land use, development and utility placements associated with the Edmonton and Calgary ring roads.
- continued liaison work with the cities of Edmonton and Calgary in reviewing and providing input to their designs and standards as prepared by the city or their consultants. Major projects included are the design of the interchange at the intersection of Highway 14 and the Whitemud Freeway in Edmonton, the Edmonton South Roadway Network review, the Calgary Deerfoot Trail Core-CD Study, and the Calgary Northwest Bypass and Scenic Acres interchange review.

Landscape Design

- building design review and irrigation design for the Bassano Rest Area on Highway 1 and a planting plan for the Valleyview Rest Area on Highway 43.
- site selection studies for a future rest area on Highway 2 southbound in the Wetaskiwin/Ponoka area, and site layout plans and building integration for a future rest area site on Highway 2 south of High River and on Birch Lake south of Highway 16 on SR 870 near Innisfail.
- landscaping design plans and assistance to the Boy Scout-Camp Gardner located west of Calgary, the Town of Oyen and the Town of Okotoks.

Environmental Design

On site environmental co-ordination work was carried out on four construction contracts on Highway 40 and three construction projects on SR 734. Ongoing operational monitoring was carried out on 300 kilometres of major roads in the Kananaskis Country, on 190 kilometres of recently completed sections of Highway 940 and SR 734, and on numerous gravel and stockpile sites. Participation and input was provided to the Bio-Engineering Research, the Fishways Working Group and the fish Habitat projects.

Design And Drafting Services

Design and drafting was completed for 22 Location Study reports, eight Access Control reports, and 15 other preliminary design and landscape plans. Approximately 1400 kilometres of highway strip mosaics for access and development control purposes within the department have been updated and completed. Approximately 35 per cent of drafting is now being done on the computer intergraphics system.

Referral Services

Referral Services provides highway planning information and guidance to the Regional and District Officers to assist them in the consistent application of the department's responsibilities under the Public Highways Development Act and the Alberta Planning Act. These responsibilities are primarily in the areas of land use, development and subdivision proposals in the vicinity of the primary highway system. Other branches and external government agencies are also provided with information and planning expertise as required.

Referral Services administers the department's approval of utility placements along the primary highway system under terms of the Public Highways Development Act, Pipeline Act and the Water, Gas, Electric and Telephone Companies Act. Utility companies and owners are advised of planned highway improvements to minimize costly relocation of utilities. Standards for utility installations are developed and maintained to protect the highway plant and user.

OPERATIONAL PLANNING BRANCH

Expenditure For the Year Ended March 31, 1987

OPERATIONAL PLANNING ADMINISTRATION	
Administration Services	\$ 416 159
General Office Services	62 143
	\$ 478 302
DESIGN & ENVIRONMENTAL DESIGN	
Administration & Functional Design	\$ 413 885
Drafting Services	582 742
	\$ 996 627
LOCATION SERVICES	
Administration	\$ 580 732
Location Studies	458 580
Photogrammetry Mapping	177 403
Photogrammetry Airphoto Services	440 041
Reconnaissance, Location & Control Surveys	763 980
	\$ 2 420 736
REFERRAL SERVICES	
Administration & General Services	\$ 174 065
	\$ 4 069 730

Urban Transportation Branch

During the reporting period Urban Transportation was responsible for allocating approximately \$142 million to Alberta cities under the Urban Transportation Program. This program is designed to provide assistance to cities for capital and operating costs incurred in the development and operation of effective roadway and public transit systems. This was the second year of the three year program which became effective on April 1, 1985. Sixteen cities and the County of Strathcona (Sherwood Park) received urban transportation assistance in the 1986/87 fiscal year. The total grants provided to each jurisdiction were as follows.

Airdrie	\$ 844 911
Calgary	58 003 498
Camrose	1 196 023
Drumheller	522 583
Edmonton	58 842 885
Fort McMurray	544 910
Fort Saskatchewan	1 218 302
Grande Prairie	2 605 736
Leduc	1 011 298
Lethbridge	3 649 311
Lloydminster	823 461
Medicine Hat	647 287
Red Deer	5 193 920
Spruce Grove	887 543
St. Albert	2 966 657
Wetaskiwin	67 866
County of Strathcona (Sherwood Park)	2 410 884
	\$ 141 437 075
Multi-jurisdictional Projects	203 155
	\$ 141 640 230

Details of grants made during 1986/87 for each of the four grant types available under the Urban Transportation Programs are outlined in the following section.

Basic Capital Program

This program provides capital grants to support the development of roadway and public transit components of the city transportation system. The province pays 75 per cent of capital projects up to a maximum of \$70 per capita to each city provided the city had sufficient projects. Some cities did not receive a Basic Capital allotment in 1986/87 because of the large carryover on hand from the previous year.

As part of the Basic Capital Program described above, special grants of \$6 million each were provided to the cities of Calgary and Edmonton. The Calgary grant was for the resurfacing and upgrading of a number of arterial roadways prior to the Olympic Games in 1988. The Edmonton grant was for the construction of the west leg of the Outer Ring Road from Whitemud Drive to Stony Plain Road. The City of Red Deer was provided with a special grant of \$720 000 for design of its Railway Relocation/Major Roadway project.

BASIC CAPITAL PROGRAM

Airdrie	\$ 730 170
Calgary	50 006 125
Camrose	892 570
Drumheller	466 970
Edmonton	45 430 950
Fort Saskatchewan	1 103 180
Grande Prairie	1 753 920
Leduc	945 320
Lethbridge	2 830 000
Lloydminster	738 990
Red Deer	4 446 900
Spruce Grove	809 830
St. Albert	2 512 790
County of Strathcona (Sherwood Park)	2 083 480
	\$ 114 751 195
Multi-jurisdictional Projects	203 155
	\$ 114 954 350

Major Continuous Corridors and Primary Highway Connectors Program

As an incentive to ensure continuity of a high standard primary highway system through urban areas, the province will contribute 90 per cent of the cost of construction of one high standard, efficient route through each city which connects to the provincial highway system.

MAJOR CONTINUOUS CORRIDORS AND PRIMARY HIGHWAY CONNECTORS PROGRAM

Camrose (Camrose Drive)	\$ 215 000
Edmonton (Clover Bar Bridge rehabilitation & Yellowhead Trail at 82 St Interchange)	6 100 000
Grande Prairie (Highway 2)	500 000
	\$ 6 815 000

Public Transit Operating Program

Municipalities with a provincially approved conventional public transit system received \$8 per capita plus \$3 per capita for transportation of senior citizens and the disabled. All other municipalities received \$3 per capita for transportation of senior citizens and the disabled.

Spruce Grove received an additional grant of \$8056 to assist in a test commuter bus service into Edmonton.

PUBLIC TRANSIT OPERATING PROGRAM

Airdrie	\$ 114 741
Calgary	6 876 573
Camrose	38 253
Drumheller	20 013
Edmonton	6 160 935
Fort McMurray	404 910
Fort Saskatchewan	37 422
Grande Prairie	275 616
Leduc	38 778
Lethbridge	658 911
Lloydminster	31 671
Medicine Hat	458 887
Red Deer	578 820
Spruce Grove	42 763
St. Albert	394 867
Wetaskiwin	30 066
County of Strathcona (Sherwood Park)	327 404
	\$ 16 490 630

Primary Highway Maintenance Program

These grants are provided to assist in the maintenance of primary provincial highway routes within the cities. During the reporting period the provincial contribution was \$2000 per lane-kilometre of eligible roadway.

PRIMARY HIGHWAY MAINTENANCE PROGRAM

Calgary	\$ 1 120 800
Camrose	50 200
Drumheller	35 600
Edmonton	1 151 000
Fort McMurray	140 000
Fort Saskatchewan	77 700
Grande Prairie	76 200
Leduc	27 200
Lethbridge	160 400
Lloydminster	52 800
Medicine Hat	188 400
Red Deer	168 200
Spruce Grove	34 950
St. Albert	59 000
Wetaskiwin	37 800
	\$ 3 380 250

**TRANSPORTATION SAFETY
BRANCH**

R.R. Hogg
Director

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The *Transportation Safety Branch*, the provincial government's traffic safety co-ordinating agency, is responsible for reducing the number of motor vehicle collisions, injuries and deaths in Alberta.

Through research, legislation, investigation, inspection and educational activities, the branch develops and implements programs aimed at the three primary elements of a collision - the driver, the vehicle and the roadway - in order to reduce collision rates and improve safety on Alberta's highway system.

Over the past year, total collision rates decreased while fatality rates remained constant. Measured in terms of vehicle-kilometres travelled (a more accurate indication of traffic activity than population numbers), Alberta had the third lowest fatality rate in Canada.

During the 1986/87 reporting period, the branch ran two province wide safedriving advertising campaigns - one summer, one winter and one special campaign (to inform the public about the new eight light warning system for school buses). The television commercial for this campaign, which used animation, was extremely well received.

The branch maintains liaison and undertakes joint projects with other professional international and national traffic safety organizations such as the American Association of Motor Vehicle Administrators, Roads and Transportation Association of Canada, Canadian Conference of Motor Transport Administrators, Canada Safety Council, the Traffic Injury Research Foundation, Canadian Standards Association and the Commercial Vehicle Safety Alliance.

The branch contributes expertise to other provincial government departments, agencies, and boards such as the Impaired Driving Countermeasures Coordinating Committee, the Alberta Research Council, Alberta Solicitor General, the Alberta Alcoholism and Drug Abuse Commission, Alberta Education and the Faculty of Extension, University of Alberta.

During the reporting period, the Operator Improvement Section which was responsible for regulating the province's driving schools, the Driver Education Incentive Program and the School Bus Driver Licence Endorsement Program, was transferred to Alberta Solicitor General.

Engineering

The Engineering Section is responsible for those aspects of transportation safety relating to roads and vehicles.

Detailed crash investigation and review of motor vehicle collision reports continued to play an important role in the identification and treatment of highway collision-prone locations. During the 1986/87 fiscal year over 630 sites received indepth analysis with resultant changes. Input into the department's construction program was provided where analysis indicated major changes were needed to improve road safety.

Specific investigations were carried out for 252 fatal crashes and 263 construction zone crashes on the primary highway system and secondary road network enabling the correction of roadside hazards as well as developing countermeasures to prevent occurrences of similar incidents. Comprehensive studies of road factors, driver conditions and vehicle standards were conducted in 323 school bus collisions, 87 train/vehicle crashes and 70 other severe motor collisions. Substantial findings from these investigations were used to enhance the branch's efforts on promoting seat belt usage as well as vehicle inspection needs. Traffic safety related information was given to school bus authorities to improve school bus safety or delivered to other jurisdictions for the establishment of safety related programs.

Matching up industrial transportation needs and overdimensional carriers became a new focus of attention. One hundred and seventy-three collisions which involved overlength trucks or equipment were analyzed during the reporting period. On the road observations of specific truck configurations were also carried out to analyse operation and safety aspects of these units and the effects on general traffic.

Significant traffic engineering functions were also accomplished by the Engineering Section. At locations throughout the province, 114 studies examining traffic operations and safety characteristics were completed. The studies recommended methods to alleviate traffic and pedestrian conflicts as well as the use of better traffic management strategies. Safety reviews were provided for 44 major highway design projects and alignment selections.

In this period, nine full traffic signals and six pedestrian actuated crosswalk signals were installed at busy highway intersections to improve traffic and pedestrian flow while regular maintenance was provided for 73 signal sites.

The traffic engineers also maintained an ongoing review of highway speed patterns. The information obtained from 250 monitored sites and other specially requested studies led to speed limit changes on 59 highway sections. Traffic turning movement patterns were also scrutinized at 220 highway intersections to change the traffic control methods.

As part of the branch's prime objective in reducing train/vehicle collisions, the Railway Crossing Improvement Program continued to be a very high priority project. Section staff have made 92 applications to the Canadian Transport Commission for clearance of sight lines at railway crossing locations. Automatic protection signals were installed at 15 new crossings. Approval for 14 other installations and 16 revisions to existing signal controls are pending.

To ensure road user safety, one of the Engineering Section's priorities continued to be vehicle safety, equipment standards and inspections. Major emphasis was placed on the adherence of the bus owners and inspection stations to the requirement of the bus safety programs. Commercial trucks, trailers and tractors were inspected for system defects at weigh scales, yards and selected inspection sites. With the assistance from regional staff, 3252 school buses, 122 motorcoaches and 13 064 commercial vehicles were checked to meet operation safety standards. In addition, 209 vehicles involved in collisions were inspected for mechanical defects.

During this period, 2571 inspection stations were monitored for compliance with inspection procedures and mechanic certification. Increased emphasis was placed on recreation vehicle safety systems. Six hundred and six recreation vehicles were inspected and the facilities of recreation vehicle manufacturers were visited to observe construction methods and standard adherence.

Sixty-nine seminars relating to vehicle safety were provided at the request of the industrial sector. With the support of the forest industry, logging trucks were inspected during the winter hauling season.

In addition, 42 Special Permits were renewed and 25 new permits were issued. A Preventative Maintenance Program for Alberta trucks is being developed.

Operator Improvement

The Operator Improvement Section endeavours to reduce the number of traffic related mishaps through its public education programs.

During the 1986/87 fiscal year, safety education representatives gave 3107 safety related presentations to approximately 147 000 Albertans. Although their audience was comprised mainly of students, industrial, service groups, and associations were also involved.

While most of the section's public education program involves providing lectures, representatives from Regional Transportation were also available to man displays in schools, industrial settings, malls and fairs.

In order to determine a better understanding of the circumstances surrounding a school bus crash, safety education representatives conducted 195 interviews with school bus drivers who were involved in all types of school bus crashes.

The Operator Improvement section provided training for delivery of the Air Brake "Q" Endorsement Program increasing the number of qualified course managers to 111.

The School Bus Driver Licence Endorsement Program was implemented on January 1, 1986. One hundred and forty-two school bus administration leaders have now been trained to deliver this program. A school bus driver having passed the knowledge and skill requirements can present proof of certification to the Motor Vehicles Division, Solicitor General and have an "S" endorsement placed on their operator's licence. The "S" endorsement is currently held by 1841 school bus drivers and it is expected that the majority of school bus drivers will complete this program within the next year.

As part of the overall driver improvement program, driver counsellors sent 1477 letters to Edmonton area drivers who were over-involved in collisions during the previous year resulting in 264 personal interviews and 258 telephone contacts. Driver training school instructors, government employees and commercial drivers who had developed poor driving records were also interviewed. Interviews with these drivers have proven to be of assistance to them and has enabled the branch to acquire more information about collision causes and potential remedies. Counsellors were also involved in providing presentations which outlined their program and explained their findings to industrial groups.

The Operator Improvement Section was responsible for testing driving instructors as well as licensing and monitoring instructors and driving schools. A total of 751 driving instructors and 114 driver training schools were licensed by the branch during 1986. Four hundred and eighteen monitorings of the driver training industry, 290 written instructor exams and 235 instructor road exams were given by the safety education representatives.

In conjunction with its involvement in driving schools, the section administered the Driver Education Incentive Program. During 1986, 23 305 new drivers received certificates which entitled them to an insurance reduction.

Planning & Program Support

Planning and Program Support is responsible for co-ordinating a comprehensive, planned approach to improving traffic safety in Alberta.

Part of this integrated approach involves the immediate collection, continual monitoring and indepth analysis of the causal factors of traffic collisions by the Research and Analysis Unit, which maintains the province's traffic data system. There were approximately 97 000 reported traffic collisions during 1986/87, a one per cent decrease from 1985/86. Approximately 8000 of these collisions occurred on primary highways. Countermeasure programs and recommendations for improvements to the primary highway system,

are based on the unit's thorough analysis of these crashes for road hazards and collision-prone locations.

In addition to providing an in-house consulting and program support service on all aspects of branch traffic safety programs and countermeasures, the Research and Analysis Unit, conducts high priority traffic safety research projects.

Projects for 1986/87 included:

- review of seat belt legislation activities in other jurisdictions
- revision of statistical estimates of safety belt effectiveness
- preparation of societal cost estimates for alcohol involved collisions in Alberta
- evaluation of defensive driving course programs
- review of fines and driver demerits as deterrent to traffic violations and collisions
- development of revised collision manual for use by law enforcement agencies.

The unit also prepared background informational support packages for other government departments, agencies and committees.

The Research and Analysis Unit answered over 500 statistical/information requests on a wide range of traffic safety topics from the public, the media, special interest groups and other government departments. These requests averaged one manhour to complete and used approximately \$20 of computer resources. For the fiscal year ending, March 31, 1987, the unit answered over double the number of questions from 1985/86 in approximately half the time and data processing costs.

The Field Services Unit conducted 633 speed studies. Of these studies, 435 were monitoring studies which were done at the request of Engineering Services. Specific locations on primary highways and secondary roads were monitored on an annual basis to evaluate existing speed limits. One hundred and ninety-eight were special studies done at the request of either Engineering Services or municipalities to assess speed limits in urban areas.

The unit also conducted vehicle and pedestrian movement studies at 275 locations throughout the province. Frequently, particular manoeuvres were studied to develop a more comprehensive profile of the intersection concerned.

Twenty-one locations were filmed or video taped to better illustrate safety concerns at specific locations and 13 railroad crossings were surveyed for possible increased protection. Photographs were taken at the crossings to view signing and site distances.

The Administrative Services Unit co-ordinated the administrative, financial and personnel responsibilities of the branch during 1986/87.

ALBERTA MOTOR TRANSPORT BOARD

C. Procuik
Chairman

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During the fiscal year 1986/87, the *Alberta Motor Transport Board* went through a number of changes in organizational structure.

In March 1987, Mr. Gordon Bellingham became Chairman of the Board replacing Mr. Carl Procuik, who moved in to the Motor Transport Branch, as Executive Director. Mr. Bellingham has been a member of the Board since 1975, and Vice Chairman since 1978.

The Board is now composed of the Chairman, and six part time members. The Board Secretariat, which provides administrative support for the Motor Transport Board becomes part of the Motor Transport Branch structure.

Alberta continues to vigorously support the thrust towards regulatory reform of the extra-provincial trucking industry. The Board is working closely with the federal and provincial government, and the trucking industry to bring in legislation for the principal elements of reform, agreed to by the Council of Ministers Responsible for Transportation and Highway Safety in February 1985. Such reform legislation will follow the proposal contained in the federal White Paper, "Freedom to Move".

The Board continues to provide Alberta's liaison with other provincial governments, and with the federal governments of Canada and the U.S.A., to ensure that Alberta motor carriers are given the best opportunity to operate in a very competitive North American market place.

Alberta Motor Transport Board

EXTRA-PROVINCIAL OPERATING AUTHORITIES, 1986/87

	APPROVED	DECLINED	TABLED	WITHDRAWN	CANCELLED
New Applications					
Motor Carrier	676	6	21	—	—
Bus	15	3	1	—	—
Amendments					
Motor Carrier	841	5	61	—	—
Bus	—	—	—	—	—
Transfers					
Motor Carrier	87	1	3	—	—
Bus	3	—	—	—	—
Cancellations					
Motor Carrier*	105	—	—	—	—
Bus	2	—	—	—	—
Temporary Authorities					
Motor Carrier	851	10	5	—	—
Bus	3	—	—	—	—
Reinstatements					
Bus	2	—	—	—	—

* Cancelled for non-payment of prorated fees, no insurance, no longer needed, dormant authority

INTRA-PROVINCIAL OPERATING AUTHORITY CERTIFICATES (BUS) 1986/87

* Class A Charter Service	NO
Class B Charter Service	43
Class C Charter Service	17
Class D Charter Service	48
Intra-Provincial Bus Route Certificates	16
Private Bus Certificates	126
D Class Restricted Certificates	997
	47

* Increase in Class A Charters and decrease in Class B Charters is due to regulatory change which amended the definition of Class A equipment.

OTHER PERMITS AND CERTIFICATES 1986/87

Liveryman's Certificate	NO
Drive Yourself Certificate	319
Bus Single Trip Permits	206
Bus Equipment Exemption Permits	1044
	57

Seven increases in public bus tariffs were approved, as were six changes in schedules.

ALBERTA MOTOR TRANSPORT BRANCH

H.K. Walker
Executive Director

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The *Motor Transport Branch* provides operational and administrative support to the Motor Transport Board in governing commercial highway transportation in and for the Province of Alberta. The director of the branch is delegated powers, under Section 35(1) of the Motor Transport Act, to regulate the weights and dimensions allowed public vehicles operating in Alberta.

This regulatory body functions on a mandate of service, education and assistance to the transport industry encouraging voluntary compliance as opposed to the fear of punitive action. To achieve its goal of effectively managing commercial highway transport in a safe, fair and equitable environment, the Motor Transport Branch is divided into five sections: Transport Field Operations, Transport Engineering, Finance & Administration, Operating Authority Administration and Communications, Training, and Research.

During the reporting period, Branch and Board personnel completed a review and a rewrite of the regulations under the Motor Transport Act. This rewrite has removed redundancies, corrected inconsistencies, and regrouped the existing regulations into more meaningful subject-oriented regulations.

Toward the end of the fiscal year 1986/87 developments were occurring which would have a significant impact upon the Motor Transport Branch. Along with the changes to the internal organizational structure, plans were being finalized for the amalgamation of the Alberta Highway Patrol with Transport Field Operations and the transfer of the Prorate function to the Motor Vehicle Division of the Alberta Solicitor General.

Motor Transport Branch

Transport Field Operations

Transport Field Operations is the enforcement arm of the Motor Transport Branch, its purpose being to ensure public vehicle compliance with Provincial and Federal Legislation. As part of this section's goal to "provide service to the transport industry", and its philosophy of "enforcement without prosecution", Transport Field Operations endeavours to:

- establish strategic locations for vehicle inspection stations (VIS)
- provide for the monitoring and control of transport loads on the highway system
- provide "on road" inspection of documents and records
- educate the industry by dissemination of promotional and regulatory information and material
- conduct seminars and demonstrations on industry related topics
- maintain liaison with other enforcement agencies
- maintain decentralized permit issuing offices
- conduct "off highway" investigations and audits
- maintain a compliance recording system.

During the 1986/87 fiscal year, Transport Field Operations, through its nine district offices and 19 vehicle inspection stations, collected in excess of \$3.3 million dollars in permit revenue. During this reporting period 431 off road investigations were conducted by a team of four special investigators.

Transport Engineering

Transport Engineering is responsible for developing weight and dimension regulations, policies and procedures which allow for the equitable balance between highway user needs and the physical capabilities of our roads and bridges, while considering the requirement of public safety.

In order to achieve its goal of "maximum use with minimum abuse" Transport Engineering:

- initiated 34 general road ban orders to protect weakened roadbeds
- issued 10 666 fee permits to a value of \$454 119. Over \$200,000 of this amount was accounted for by self-issuing permits
- issued 11 000 (non-fee) special and over-dimensional permits which, because of their special nature, can only be issued by Red Deer Head Office
- established a "high load corridor" to facilitate the safe and efficient movement of overheight loads from the major manufacturing centers to the Tar Sands at Cold Lake and Fort McMurray
- expanded the extended weight program to allow carriers to haul additional weight on selected routes free from bridge restrictions
- continued their involvement with the Roads and Transportation Association of Canada (RTAC) in an effort to develop equipment weight and dimensional standards across Canada

TRANSPORT FIELD OPERATIONS

Year Ending March 31, 1987

LOCATION	VEHICLES WEIGHED	VEHICLES CHECKED	INFRACTIONS	FEE PERMITS	NON-FEE PERMITS	HOURS OPEN	TOTAL FEES
Acheson	21 553	1 966	203	3 859	1 227	3 967	\$ 136 937
Ardrossan	43 193	4 863	258	838	430	3 227	29 650
Balzac	56 658	10 816	1 209	2 573	782	4 397	102 144
Burns	46 336	21 093	1 498	2 479	1 063	6 835	70 030
Calgary (O)	—	—	—	2 235	1 914	2 070	64 764
Cochrane	4 146	1 037	255	120	93	479	2 534
Coutts	33 559	15 658	1 237	2 624	1 344	6 401	74 715
Demmitt	15 519	2 304	224	2 536	674	4 528	94 505
Dunmore	41 504	1 531	116	4 659	1 098	5 568	137 034
Edmonton (O)	—	—	—	15 255	2 366	3 448	708 132
Grande Prairie (O)	—	—	—	1 299	472	1 802	39 331
Grande Prairie VIS	18 350	2 361	474	1 977	882	2 902	76 105
Grimshaw	15 709	1 104	857	4 547	973	3 133	158 617
Hinton	25 603	2 113	78	2 056	759	4 637	54 234
Jumping Pound	55 002	12 583	690	4 796	1 600	7 274	144 395
Leduc	79 475	6 834	2 063	5 905	1 559	6 677	253 338
Lethbridge (O)	—	—	—	2 426	781	2 063	51 472
Morrin	10 225	1 813	115	443	176	1 630	14 393
Radway	30 873	3 094	662	3 048	1 112	6 607	127 130
Red Deer	12 778	1 343	113	4 881	604	3 129	134 668
St. Paul (O)	—	—	—	1 169	313	1 895	26 182
Strathmore	27 238	4 414	120	1 143	286	2 551	40 596
Vermilion	71 420	3 887	387	3 481	969	6 168	104 388
Whitecourt	50 918	3 750	968	5 523	1 134	5 369	223 517
	660 059	102 564	11 527	79 872	22 611	96 757	\$ 2 868 811

(O) Office

• continued to computerize the bridge evaluation program designed to provide immediate access and information on the overload capacities on all Alberta bridges.

The Engineering Section continues to amend and extricate regulations and policies in keeping with the move to regulatory reform and to accommodate new technical advances and developments. This section also provides advice and consultation to all segments of the transport industry on equipment standards and load distribution capabilities.

Finance and Administration

The Finance and Administration Section provides financial and administrative support programs to the Motor Transport Branch and Motor Transport Board. Such programs include the establishment and maintenance of all policies and procedures relating to administrative services. These include the areas of maintenance, assets and inventory control, facilities, personnel, word processing and record management.

During the reporting period, this section co-ordinated the preparation of and support for the annual operating budget of both the Motor Transport Branch and the Motor Transport Board. Support was provided to all operating sections to ensure maximum utilization of available funding.

Cash management systems, controls and reporting procedures were constantly monitored to ensure continued accurate reporting and reconciliation of the over \$730 000 generated through cash sales of various permits at all field offices of the Motor Transport Branch. An overload permit charge account system was maintained on behalf of approximately 1000 carriers. This system allows carriers the privilege of charging fee permits on a daily basis while receiving one monthly invoice for all fee permits acquired. New initiatives for 1986/87 included the implementation of a credit card system for the purchasing of fee permits. Master Card and Visa sales, are now acceptable at all field offices and vehicle inspection stations.

All revenue due the Motor Transport Branch, as identified and invoiced by the Prorate Section, were processed through the banking system and reported to Alberta Treasury. Total revenues of \$2 889 099 were processed through the Motor Transport Branch banking system for prorate services.

SALES JOURNAL - YEAR END 1986/87

MONTH	MV FEES	EXTENDED LIC	OVER WEIGHT	BACKING PLATES	CDN FUNDS	AMERICAN FUNDS	VISA CARD	MASTER CARD	TRANS	TOTAL DEPOSIT	ON ACCT MVD	ON ACCT. EXT	ON ACCT OVR WGT	CREDIT	TOTAL FEES
April	\$ 1 020	\$ 41 548	\$ 20 688	\$ 1 146	\$ 61 582	\$ 161	\$ 2 205	\$ 454	\$ 185	\$ 64 587	\$ 20	\$ 2 750	\$ 128 468	\$ 86	\$ 195 738
May	1 200	36 246	11 806	432	46 816	110	2 293	464	275	49 958	5	1 651	157 860	57	209 417
June	1 450	41 363	14 468	585	55 082	234	2 158	392	480	58 345	55	1 939	215 261	495	275 105
July	1 045	37 673	14 152	441	49 291	146	3 340	534	331	53 641	10	1 875	194 069	338	249 257
August	920	35 617	19 123	654	50 661	69	4 691	893	285	56 599	15	2 300	209 701	408	268 208
Sept	965	32 913	16 885	333	46 485	184	3 933	494	192	51 288	10	2 296	225 347	266	278 675
Oct	835	33 899	20 650	351	48 025	83	6 799	828	213	55 949	15	3 149	246 935	258	305 790
Nov	535	30 508	30 494	1 434	57 370	118	4 528	955	240	63 231	35	2 064	254 005	506	318 829
Dec	520	27 437	31 749	1 290	57 047	53	3 070	826	202	61 198	10	977	320 979	299	362 863
Jan	765	29 652	31 829	1 038	54 734	316	4 744	1 489	252	63 535	40	2 002	168 552	369	233 760
Feb	480	37 541	31 649	705	60 406	30	7 763	2 196	165	70 566	80	3 148	205 499	82	279 205
March	930	53 822	30 730	1 431	75 223	302	8 665	2 704	271	87 184	25	4 450	223 338	397	314 600
	\$ 10 665	\$ 438 219	\$ 274 243	\$ 9 340	\$ 662 722	\$ 1 806	\$ 56 209	\$ 12 229	\$ 3 111	\$ 736 075	\$ 320	\$ 28 601	\$ 2 550 014	\$ 3 561	\$ 3 311 450

Operating Authority Administration

Operating Authority Administration is responsible for the prorationing of licence fees and the issuance of intra-provincial operating authority certificates (trucks) and all documentation related thereto. This section also issues, upon Board direction, all extra-provincial truck and bus operating authority certificates.

Through this section, the province negotiates and maintains reciprocal licensing arrangements for commercial vehicles on an interprovincial and international basis. Alberta participates in three commercial vehicle licensing reciprocal agreements in Canada and the United States — these plans are:

- The International Registration Plan (IRP)
- Uniform Vehicle Registration Proration and Reciprocity Agreement (Western Compact)
- Canadian Agreement on Vehicle Registration (CAVR)

Prorated licence fees collected from Alberta residents for the 1986/87 fiscal year, paid directly to the Motor Vehicles Division of the Alberta Solicitor General, totalled \$4 182 533 from 13 277 prorated vehicles.

The reporting period of 1986/87 saw the implementation of the designated commodities agreement. This reciprocal arrangement between Alberta, Saskatchewan and Manitoba, eliminated the requirement of carriers, transporting these commodities, having to prove public need and necessity prior to obtaining an extra-provincial operating authority.

During this period the capitalization and dormancy reviews of extra-provincial authorities was discontinued and the acceptance of shippers support from commodity brokers, freight-forwarders, shippers agents and shipper co-operatives was initiated. All of these changes were in keeping with the movement toward regulatory reform and administrative reduction.

Details of permits and certificates issued and revenues received on behalf of the Motor Transport Board are shown below.

COMMERCIAL LICENCING RECIPROCITY 1986/87

	NO	REVENUE
Vehicles prorated	32 319	\$ 2 761 810
Cab cards issued	16 673	118 890
Backing plates	2 800	8 400

OPERATING AUTHORITY CERTIFICATES 1986/87

Intra-Provincial (Truck)	NO
New Applications	2 300
Amendments	178
Transfers	8
Cancellations	499
Reinstatements	5
Renewals	1 904
Extra-Provincial (Truck) Certificates Issued (new and amended)	352
Designated Commodities (new and amended)	883
Certificates Renewed	401
Certificates Cancelled	88
Transfers	69
Temporary Authorities	538

Communications and Training

This section of the Motor Transport Branch is responsible for providing support services to the Motor Transport Board and Branch in the areas of communication, research, and training.

Communications

During 1986/87, efforts were directed at developing, implementing and maintaining a network of communication with government departments and agencies, the transportation industry and public interest groups. This section ensures personnel are available for speaking engagements and transportation-related seminars, that displays are available for trade shows and fairs, and that relevant brochures, pamphlets and posters are distributed from vehicle inspection stations and district offices.

During this period, this section produced a training and instructor's manual for Escort Driver Training; and produced a Directory of Services brochure outlining each section's function and purpose, and listing applicable telephone numbers and names of Motor Transport Branch personnel.

Regulatory changes are also co-ordinated through this section and distributed to some 125 user groups.

Training

The Training Section primarily co-ordinates the training and human resource development of Board/Branch employees. It also responds to invitations from industry and public interest groups to participate in seminars and displays at trade fairs, shows, and exhibitions. During this reporting period, this section co-ordinated the Branch's presence at InterCan and Truxpo, two major trade shows involving the transport and oil industries.

UTILITIES, PLANNING AND RURAL ELECTRIC DIVISION

J. Zoriko
Assistant Deputy Minister

Planning and Analysis Branch 73

L. Charach
Director

Rebates Branch 74

G. Breckenridge
Director

Rural Electric Branch 76

J. Mann
Director

The *Utilities Planning, Rebates and Rural Electric Division* is responsible for providing analysis and advice to assist the government in decisions on utility policies, for administering rural electrification programs and services and for delivering heating fuel rebate programs. The division consists of the Planning and Analysis Branch, the Rural Electric Branch, and the Rebates Branch.

The Planning and Analysis Branch manages and co-ordinates a range of projects related to utilities policy development and planning. A highlight of 1986/87 was the preparation of terms of reference for an inquiry into electrical production with small generating units. The results of this Small Power Inquiry, expected at the end of 1987, will further the government's policy of facilitating small power projects using renewable and waste resources.

The Rural Electric Branch delivers a loan program which reduces the costs of new electrical installations on farms and grant programs which aid electrification in rural and remote areas. Advisory services are also provided to rural electrification associations (REA's). In 1986/87 demand for loans and other assistance remained strong with over 2100 loans issued to farmers for new electrical services.

Four programs are administered by the Rebates Branch which reduce fuel costs for home heating, farm and other purposes. Many rural residents and farmers continued to benefit throughout 1986/87 from the Remote Area Heating Allowance on propane and heating oil and from the Primary Agricultural Producers Program for natural gas. Over 91 000 seniors received \$100 cheques through the Senior Citizens Home Heating Protection Program. Rebates paid through the Natural Gas Price Protection Plan, however, dropped significantly following the deregulation of natural gas prices in November 1986.

Planning and Analysis Branch

The Planning and Analysis Branch provides analytical support and co-ordination for the development and evaluation of the Utilities' policies, programs, and planning activities.

During the year the branch managed and participated in a number of activities including:

- development of an Order in Council directing the Energy Resources Conservation Board and Public Utilities Board to conduct a joint inquiry into electricity production with small generators. The inquiry will result in recommendations to the government on policies for pricing, access and other matters affecting small power production
- provision of financial, economic and policy analysis for the evaluation of Utilities' programs and eligibility criteria, including rural electrification loans and heating fuel rebates
- assessments of various proposals for government policies affecting electricity generation, access to the Alberta Interconnected System and rate equalization
- review of grant requests
- ongoing participation in an Energy Modeling Forum on North American electricity markets and trends
- co-ordination of a provincial response to the Federal Government on the review of National Energy Board regulation of electricity exports
- representation on an interdepartmental committee on trade
- analysis of Energy Resources Conservation Board and Public Utilities Board regulatory decisions; review of regulatory trends in other jurisdictions
- development of a computerized utilities database for policy analysis covering both
- historical trends in electricity and natural gas rates
- rate forecasting models
- representation on the department Task Force on Restraint and co-ordination of other planning activities.

Rebates Branch

The Rebates Branch administers four major rebate programs which by way of direct payments to utility companies and individuals reduce the cost of fuel used for home heating, farm and other purposes by residential, business and industrial consumers. Legislative authority for the programs is contained in the Natural Gas Rebates Act and Regulations and the Transportation and Utilities Grants Regulations. All programs have sunset clauses by policy, regulation or legislation and are regularly reviewed.

Natural Gas Price Protection Plan

First introduced in 1974, the objective of the plan has been to shelter Albertans from the full effects of high prices for natural gas. This objective is accomplished through rebate payments mainly to utility companies which, in turn, are reflected in lower rates for consumers. With this method of delivery Albertans do not have to apply to receive the plan's benefits. The Public Utilities Board ensures that the rates charged customers reflect the full benefit of the rebate paid.

Large industry and industry using natural gas as a feedstock are limited to rebates on the first petajoule (billion cubic feet) of gas consumed in any fiscal year. Some other uses, such as gas used in heavy-oil recovery, oil sands, and as a compressor fuel, are not eligible for rebate.

The plan rebates the difference between a Provincial Support Price, which is set periodically, and the price actually paid by utility/industrial purchasers to gas producers. Up to October 31, 1986, the support price was established at 65 per cent of the Alberta Border Price as determined under Federal/Alberta agreements.

For the period January 1 to October 31, 1986, the Support Price was set at \$1.82 per gigajoule. Gas prices rebated during that time were in the \$2.40 per gigajoule range resulting in a rebate of 58 cents per gigajoule. On an annual basis this equates to a reduction of about \$120 per year in a typical residential customer's bill. The actual amount of rebate was shown on customer billings by most utilities.

Pursuant to a Federal/Provincial agreement on natural gas prices and markets, market pricing for natural gas came into effect on November 1, 1986. To facilitate the transition to market prices the Government of Alberta decided to retain the Natural Gas Price Protection Plan and the \$1.82/GJ Support Price. For gas prices below the Support Price no protection or rebate would be paid. However, prices above \$1.82/GJ would continue to be rebated. This policy ensured that Alberta consumers would not face increased gas costs following deregulation.

Subsequent to November 1, 1986, buyers and sellers began to renegotiate gas supply contracts

which referenced the now redundant Alberta Border Price. At year end no renegotiated contracts had been submitted for rebate and most interim prices were below the Support Price.

The total amount of rebates paid in the year was \$54 million. This was down from \$128 million in 1985/86.

Rebates are paid from an allocation of non-renewable resource revenues. The plan currently has a March 31, 1988, sunset date.

Primary Agricultural Producers Rebate Program

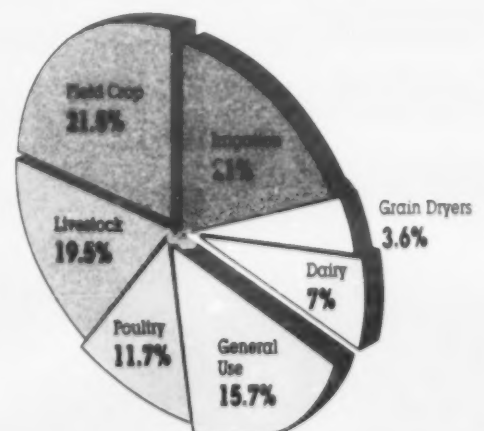
This program provides a rebate to consumers who use natural gas in primary agricultural operations. The rebate is in addition to the benefit under the Natural Gas Price Protection Plan. Examples of eligible operations include field crop, livestock, dairy and poultry farms, greenhouses (including ornamental), irrigation, grain dryers, sod and peat moss farms and alfalfa processors. Rebates are also available to farmers who do not own grain dryers and who have to rely on the services of others to dry their grain.

In place since January 1, 1982, the program is currently effective until December 31, 1987.

The rebate level is 50 cents per gigajoule (GJ) on consumption of natural gas between 300 GJ and 10 000 GJ used during a calendar year. Consumers apply to the department for this rebate. Like the Natural Gas Price Protection Plan these benefits are paid out of an allocation of non-renewable resource revenues.

During the year 6104 applications were processed. Rebate payments totalled \$3 486 771 for an average of \$571 per application. This compares to 8276 applications last year totalling \$4 051 640 for an average of \$490 per application.

REBATE PAYMENTS BY TYPE OF USE



Remote Area Heating Allowance Program

This program rebates up to 35 per cent of the price paid for heating oil and propane by residential, farm, community and small business consumers who must use these fuels because natural gas service is not economically available. The program currently extends to March 31, 1988.

Rebates totalling \$3 444 468 were paid on the 9528 applications processed during the year. The average rebate per application was \$362. This compares to total rebates of \$3 431 972 paid last year on 9949 applications for an average of \$345 per application.

Over 26 000 Albertans have benefited from the program since its introduction in 1980. It has provided welcome relief from high fuel prices for residents both in remote areas and in natural gas franchise areas while natural gas lines were being extended to their locations through the department's Rural Gas Program. Many former rebate applicants are now enjoying natural gas service.

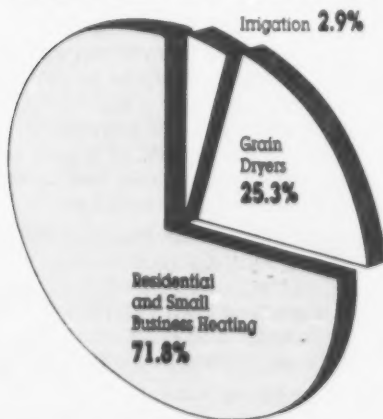
The program also reduces fuel costs for farmers who dry grain or irrigate their land using portable equipment. Rebates are also available to farmers who rely on the services of others for grain drying.

The rebate is also available to widows and widowers 55 years of age or over who are receiving a pension under the Alberta Widows' Pension Act. Those 60 years of age or over whose spouse was at least 65 at the time of death are also eligible.

During the year 91 434 cheques were mailed to senior citizen home owners in respect of the 1986 calendar year. This compares to 89 102 and 85 177 cheques for 1985 and 1984 respectively, reflecting the growing seniors population in Alberta. The benefits paid since the program was introduced in 1982 total \$42 million.

As evidenced by the numerous calls and letters received the Senior Citizens Home Heating Protection Program continues to be a welcome help with the costs of home heating.

REBATE PAYMENTS BY TYPE OF USE



Senior Citizens Home Heating Protection Program

This program provides \$100 per year to each household regardless of the type of fuel used for home heating. Introduced in 1982 the program is effective to the end of the 1987 calendar year.

The majority of eligible senior citizens receive the rebate benefit without having to complete an application form. Eligibility is automatically established by using lists supplied by municipalities of seniors who have applied for and received the Alberta Property Tax Reduction Benefit. In the relatively few cases where seniors' names do not appear on the lists, a short application form is used.

Rural Electric Branch

The Rural Electric Branch delivers a loan program from the Rural Electrification Revolving Fund as well as managing grant programs to assist rural electrification. The branch is responsible for maintaining the Fund's accounts and for loan collection activities. The branch director fulfills the statutory duties of the Director of Rural Electrification Associations, as provided by the Rural Utilities Act.

These programs are made available under provisions of the following acts and their regulations:

- Rural Electrification Revolving Fund Act
- Rural Electrification Long Term Financing Act
- Rural Utilities Act
- Department of Transportation and Utilities Act

The Standard Bylaws and Regulations to enact the Rural Utilities Act were approved by the Lieutenant Governor in Council in the summer of 1986. The Act contains the elements governing the establishment, management and financing of rural electrification, natural gas and water and/or sewage co-operative associations. The Rural Utilities Act consolidates under one statute those provisions related to rural utilities from the co-operative Associations Act and the Co-operative Marketing Association and Rural Utilities Guarantee Act.

Rural Electrification Program: Lending Activity

Low-interest (Part One) and interest-free (Part Two) loans are made from the Rural Electrification Revolving Fund for new electrical services on farms. During 1986/87, 2141 loans were processed and funded resulting in the release of \$10 024 510.

Of this total \$6 487 246 was in loans with fixed repayment schedules and bearing interest at three and one-half per cent. These (Part One) loans are secured by a lien on the farm property. The balance of \$3 537 264 represented 708 interest-free (Part Two) loans to be repaid if and when additional use is made of the facilities constructed with these funds. Part Two loans issued on behalf of a Rural Electrification Association (REA) are secured by a first charge upon the works in favour of the Provincial Treasurer.

Payments on outstanding loans during the year totalled \$5 292 859. Of this total \$4 244 755 was repaid principal, credited back to the Rural Electrification Revolving Fund and \$1 048 104 represented earned interest deposited to the province's General Revenue Fund.

At year end the Fund stood at \$59 924 890, of which \$58 706 304 represented loans outstanding as follows:

	March 31, 1987	March 31, 1986
Low-interest (Part One) loans:		
10 year repayment schedule	\$ 5 114 610	\$ 5 527 734
25 year repayment schedule	27 695 460	24 347 437
Interest-free (Part Two) loans:		
No fixed repayment schedule	25 896 234	22 947 553
Total Loans Outstanding	\$ 58 706 304	\$ 52 822 724

Rural Electrification Program: Other Highlights

The Rural Electrification Revolving Fund Act was amended in the fall session of Legislature. The amendment increased the limit on the Fund from \$55 million to \$75 million. This provides sufficient capital to maintain the lending program for several years reaffirming the government's continued commitment to meeting farmer needs for electrical services.

In February 1987 the Minister announced that a new Capital Rebuild Assistance Program for Rural Electrification Associations (REA's) would be implemented with the start of the 1987/88 fiscal year. This new program extends the scope of the lending activities from the Rural Electrification Revolving Fund. Since 1953 the Fund has been the source of financing for new electrical services on Alberta farms. The new program will make available loans to REA's for up to 30 per cent of their rebuild costs. These loans will be interest free and repayable over a term of 25 years. To date REA's have paid for the rebuild of the electric distribution systems from deposit reserve accounts accumulated from levies on members.

In response to interest expressed by REA's, a report on undergrounding rural electric systems was prepared at the branch's request by an engineering consulting firm. This report, which identified the benefits and costs of undergrounding, was distributed to all REA's.

Grants Based On 40 Per Cent Of Part Two Loans

Grants totalling \$182 946, based on 40 per cent of the outstanding amount of interest-free loans (Part Two) issued during the year for individual services, were provided to 113 REA's during this fiscal period. These grants are credited to REA deposit reserve accounts. They will help offset future rebuilding costs of the facilities financed by these interest-free (Part Two) loans.

Since the introduction of this assistance on April 1, 1979, grants totalling \$7 292 511 have been made. At the end of the fiscal year \$5 360 039 remained in effect. The difference has been recovered from REA's as a result of either the Part Two loan balance being reduced or the REA selling its assets to a utility company.

Isolated Communities Electrification Program

Grants totalling \$181 830 were issued to provide service to residents within isolated communities being developed by Alberta Municipal Affairs.

Other grants

Grants totalling \$16 774 were issued to the REA representatives on the Interim Joint Review

Committee formed to develop policy and procedures associated with the new REA/Utility Company master contract. These grants covered travel, subsistence and other expenses.

A grant of \$5000 was issued to the Alberta Union of Rural Electrification Associations to help defray expenses of REA members attending a provincial special general meeting.

LOANS ADVANCED FOR NEW ELECTRICAL SERVICES ON FARMS IN 1986/87

	REA SERVICES		UTILITY COMPANY SERVICES		TOTAL	
	No. of Loans		No. of Loans		No. of Loans	
Low-interest (Part One) Loans						
Single-Phase Services	575	\$ 2 226 690	340	\$ 1 161 220	915	\$ 3 387 910
Three-Phase Services	—	—	518	3 099 336	518	3 099 336
	575	\$ 2 226 690	858	\$ 4 260 556	1 433	\$ 6 487 246
Interest-free (Part Two) Loans						
Single-Phase Services	175	560 720	122	498 203	297	1 058 923
Three-Phase Services	—	—	411	2 478 341	411	2 478 341
	175	560 720	533	2 976 544	708	3 537 264
	750	\$ 2 787 410	1 391	\$ 7 237 100	2 141	\$ 10 024 510

GAS UTILITIES DIVISION

D. Brooks
Assistant Deputy Minister

Gas Alberta

W. Brown
Director

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Gas Distribution Branch

T. Brown
Director

83

The *Gas Utilities Division* is responsible for implementing policies and programs for natural gas utilities and for the administration of grants to rural gas distributors. The division consists of two branches: the Gas Alberta Branch and the Gas Distribution Branch.

Gas Alberta negotiates and purchases natural gas from suppliers for rural gas distributors and offers an optional billing service. The branch also provides a lien note and utility right-of-way registration service and advice on legislation and regulations affecting co-operative affairs (e.g., memberships and meetings).

The Gas Distribution Branch is responsible for the administration of grants to rural gas distributors for the construction of natural gas systems. The branch also provides technical, financial, business advisory services and regulatory services related to gas supply, pipeline construction, utility operation, gas measurement and franchise areas.

Gas Alberta Branch

Gas Alberta acts as "gas broker" under the Rural Gas Act and is responsible for the economical and efficient supply of natural gas to rural gas distributors throughout Alberta. Through this brokerage service, rural gas co-operatives and other rural distributors benefit from uniformly-priced and secure gas supplies. Gas purchases and delivery are financed through the Gas Alberta Operating Fund and distributors are assessed a wholesale gas rate for their gas supplies. The cost of gas delivery is partially subsidized by the department.

Gas Alberta also offers rural distributors an optional retail billing service. Centralized billing allows these distributors and their customers to benefit from economies of scale as well as expertise in gas measurement and billing. Distributors who participate in the billing program are assessed a charge for this service.

The branch provides other support services for rural gas co-operatives and delivers several grant programs.

Gas Accounting

Administration of gas brokerage and retail billing services for rural gas distributors encompasses:

- management of gas purchases/sales including supply and pricing strategies for the negotiation of purchases and policies for the wholesale gas rate to rural distributors.
- contract administration of gas purchase and sale contracts and retail billing agreements
- accounting and financial control for the Gas Alberta Operating Fund and the preparation of financial statements.
- Retail Billing Service. The branch offers both a full billing service and a Special Billing Program. Distributors on the latter program receive meter readings and payments directly from their customers and use Gas Alberta for processing. They maintain more control over customer accounts, can improve cash flow and have increased customer contact. Interest in this program continues to grow and six additional distributors joined the program during the year.

During the 1986/87 year:

- Gas Alberta handled purchases and sales of 15 million gigajoules of natural gas valued at \$33 million (purchase cost), including delivery costs. Under the Natural Gas Price Protection Plan, rebates totalled \$3 million on the cost of gas. Gas sales to rural distributors and other revenues amounted to \$32 million.
- thirteen per cent decrease was experienced in the volume of gas sold. This reflected warmer than normal winter conditions resulting in reduced heating load demands for natural gas.
- deregulation of natural gas prices and markets came into effect on November 1, 1986. This

provided gas Alberta with the opportunity to renegotiate existing purchase contracts. By year end it was expected that rural distributors would benefit from lower gas prices in 1987/88.

- the Retail Billing System was evaluated in light of technological changes since its implementation 14 years earlier. Progress was made on system alternatives to enhance the economy and efficiency of this service for rural distributors.
- the Meter Information System, which is designed to provide inventory control and reporting of distributor owned gas meters, became fully operational in the year. The system aids distributors in complying with technical and reporting requirements of the Federal Department of Consumer and Corporate Affairs. By year end three distributors were on the system and more are expected to be added in the next year.

Gas Co-op Support Services

This section of the branch administers the government guaranteed borrowings (lien notes) of rural gas co-operatives provides utility right-of-way registration service for them and serves as Director of Co-operative Activities supplying advice to gas co-ops on legislative and regulatory matters.

During the 1986/87 year:

- borrowings of \$890 461 by natural gas co-operatives, supported by lien notes, were guaranteed under provisions of the Co-operative Marketing Association and Rural Utilities Guarantee Act. These borrowings are used by gas co-ops to develop their distribution systems. At year end \$3 631 777 in guaranteed loans were outstanding, a decrease of \$386 047 from one year earlier. Twenty-one audits of lenders with outstanding government guaranteed loans to co-op members were also conducted.
- staff prepared 7583 rights-of-way, easements and consent-of-occupant (crown land) forms for gas co-ops and counties. Six franchise audits for utility rights-of-way and 67 infill audits were also completed.
- one new gas co-op, the Paddle Prairie Gas Co-op Ltd., was incorporated. This co-op will be supplying natural gas to the Hamlet of Paddle Prairie and the Paddle Prairie Metis Settlement. Fairview Gas Co-op Ltd. was removed from the Corporate Registry as the distribution system is now owned and operated by a utility company.

Grant Programs

The Utilities Officer Program assists rural municipalities in retaining personnel to co-ordinate utilities activities. In 1986/87, grants totalling \$1 791 249 were provided to 106 rural municipalities. The Propane/Fuel Oil Tank Grants assist residents without access to a natural gas

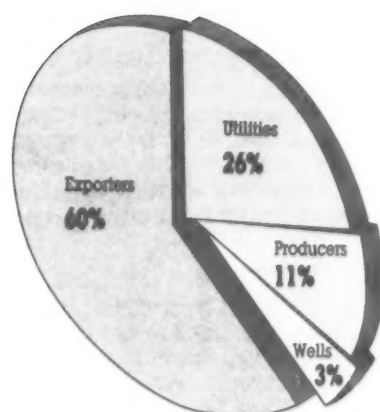
distribution system. During the year grants benefiting 314 residences were made.

Gas Alberta Summary Statistics

	1983/84	1984/85	1985/86	1986/87
Gas Brokerage Service				
Rural Gas Distributors Served (Number)	86	87	90	90
Gas Delivery or Sales Points (Number)	643	666	685	693
Gas Suppliers (Number)	33	35	35	37
Gas Volume Sold (Millions of Gigajoules)	14.2	16.1	17.2	15.0
Retail Billing Services				
Rural Gas Distributors on the Service (Number)	52	52	52	52
Customers Served (Number)	33 300	34 926	34 446	34 570

GAS ALBERTA OPERATING FUND

Total Gas Purchases in 1986/87



SUPPLIERS

REG. UTILITIES
N.U.L.
CWNG
I.C.G.

EXPORTERS
TransCanada
Alberta & Southern
Pan-Alberta
Consolidated Natural
Westcoast Trans

WELLS

PRODUCERS

TOTAL

THOUSAND OF GJ

3 928.4
2 494.4
1 417.3
16.7

8 965.5

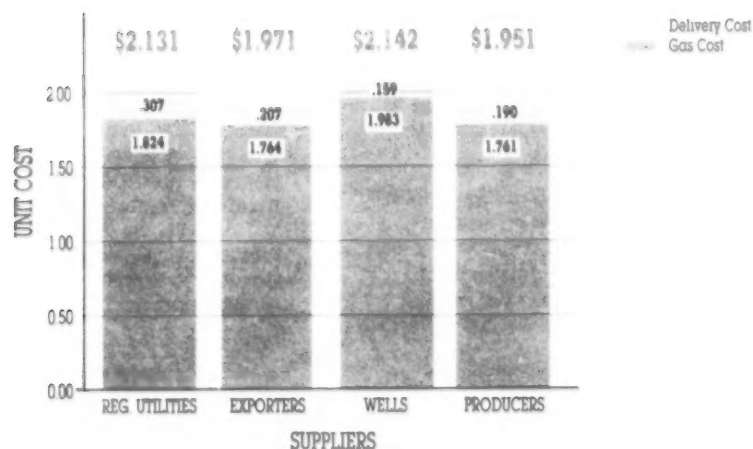
4 789.3
1 698.1
1 643.4
478.8
355.9

430.9

1 678.1

15 002.9

Unit Cost Analysis of Gas Supplies in 1986/87



- Gas cost includes the effect of non-rebatable gas.
- The delivery cost for wells is lower than normal due to the level of volumes taken from a specific supplier with a low operating cost per GJ.

Gas Distribution Branch

The Gas Distribution Branch provides a variety of technical, regulatory, financial and administrative services for the Rural Gas Program and generally liaises with the gas utility and pipeline industries within the province. The services provided include a number of functions managed directly by the branch such as gas supply operations, plant location records, and materials development and quality assurance.

During 1986/87 Business and Grants was merged into the branch as part of an overall streamlining initiative within the Gas Utilities Division. Functional responsibilities are now divided among three sections:

Business and Grants

The functions of the section fall under three main categories:

- business advisory services
- capital cost audits and grant administration
- program statistics.

The business analysts provide a financial and business management service to distributors and provide advice to the general public on matters relating to natural gas utilities. During the past year the analysts have continued to stress to distributors the importance of preparing and following sound financial planning policies through the use of budgeting and management reporting. The analysts have encouraged their clients to establish reserve funds for future replacement or improvement to their systems and the response to date has been favourable.

Capital cost audits are performed by the analysts to identify those costs eligible for grant support. Grants offset a portion of system capital costs and are processed through the section. A total of 393 grant cheques amounting to \$14 967 000 were issued during the year.

The collection and compilation of statistics of costs, installations and grants continued throughout the year. Figures and graphs illustrating some of the significant statistics of the Rural Gas Program are included for the current year and on a cumulative basis from the start of the program in the Table on page 84.

Construction and Operations

The functions of the section encompass the following areas:

- review and approval of construction projects
- determining grant eligibility of capital programs or projects
- inspection of construction and operations in rural gas utilities
- gas supply operations and wholesale gas measurement accuracy
- materials quality management.

The 1986/87 period featured the continuing

trend towards smaller construction projects as the construction phase of the Rural Gas Program reaches maturity. Approximately 600 construction approvals were processed during the period to cover the construction, replacement and upgrading of pipelines and plant in the program.

Operation and maintenance practices in rural gas utilities remained a high priority area for the section as it continued to stress safe and reliable operating procedures to utilities.

Graphics and Plant Records

With the aid of electronic data processing systems, the section provides a variety of technical services to rural gas distributors and to the branch including:

- franchise administration
- administration and development of plant location records for gas utility operating purposes
- administration of pipeline operating licences
- development of technical standards
- development of mapping systems for low pressure pipeline data as a public information service.

During 1986/87 the section continued with a number of long term automation projects using computer-assisted drafting to create mapping and data systems which will be much more efficient, effective and responsive to changes. Included in the automation program is a two year project to recreate franchise plans and overhaul franchise area approvals into a more streamlined and accurate format. This project is designed to overcome problems experienced with the rather cumbersome, error-prone and outdated format which has been in place since 1973.

The branch undertook a number of special projects during 1986/87 including:

- development of a comprehensive management information system for the large meter station infrastructure which serves the Rural Gas Program
- development of special test criteria for ensuring minimum service life properties in polyethylene gas pipe
- initiating complete rewrites of the 1982 editions of the policy and technical standards manuals for the Rural Gas Program
- sponsoring a booklet on polyethylene fusion techniques as a guideline for construction personnel
- sponsoring the production of a training and information video as a guide to gas utility personnel on methods and procedures for responding to gas leak calls from customers
- sponsoring the development of an operations and maintenance manual for rural gas distributors.

RURAL GAS PROGRAM STATISTICS**Grants Issued Under the Rural Gas Program to March 31, 1987**

	March 31, 1986	1986/1987	March 31, 1987
Regular	\$ 183 237 095	\$ 10 636 296	\$ 193 873 391
Gas Transportation	76 688 612	963 330	77 651 942
Regulator/Meter/Odorizer	12 170 954	607 565	12 778 519
Cathodic Protection	2 674 628	—	2 674 628
Operating Equipment	155 460	24 750	180 210
Leak Detection	99 367	—	99 367
Replacement PE 3306 Pipe	29 362 565	425 858	29 788 423
Other Special	11 274 509	398 871	11 673 380
Propane	237 352	119 016	356 368
Utilities Officers	8 695 411	1 791 249	10 486 660
	\$ 324 595 953	\$ 14 966 935	\$ 339 562 888

Natural Gas Services Built by Rural Gas Distributors

	March 31, 1986		Services Installed 1986/87	March 31, 1987		
	Pre-Act	Post-Act		Pre-Act	Post-Act	Total
Rural	19 663	67 388	2 862	19 663	70 250	89 913
Urban	2 393	14 112	737	2 393	14 849	17 242
Non-Grantable	1 152	4 590	272	1 152	4 862	6 014
Irrigation	1 839	2 992	118	1 839	3 110	4 949
Grain Dryer	13	948	165	13	1 113	1 126
	25 060	90 030	4 154	25 060	94 184	119 244

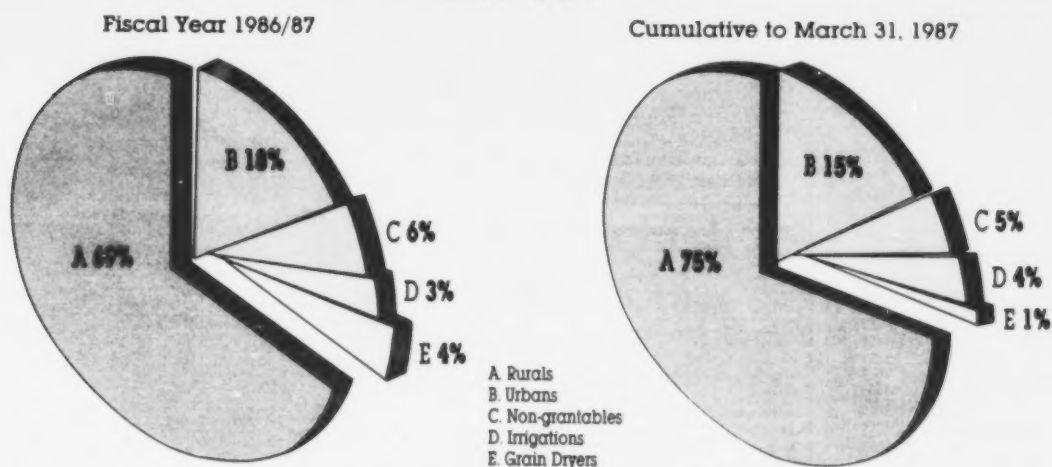
Kilometres of Pipeline Installed in Rural Natural Gas Distributor Systems

	March 31, 1986	Kilometres Installed 1986/1987	March 31, 1987
Polyethylene	79 865	1 401	81 266
Aluminum	5 446	39	5 485
Steel	2 155 (1)	49	2 204
	87 466	1 489	88 955

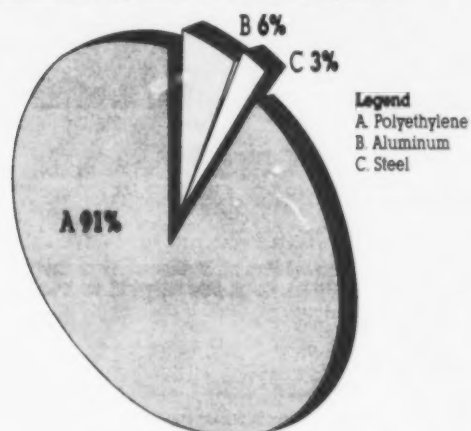
All construction numbers subject to revision as more precise information is received from distributors. Kilometres for Pre-Act system unavailable.

(1) Includes 465.70 kilometres of government owned pipeline.

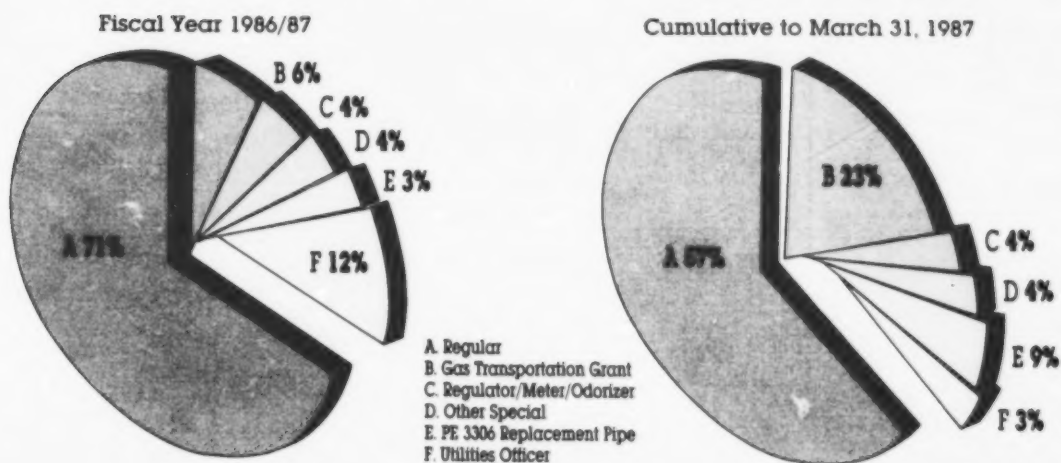
Percentage of Rural Natural Gas Services by type for 1986/87 Fiscal Year and Cumulative to March 31, 1987



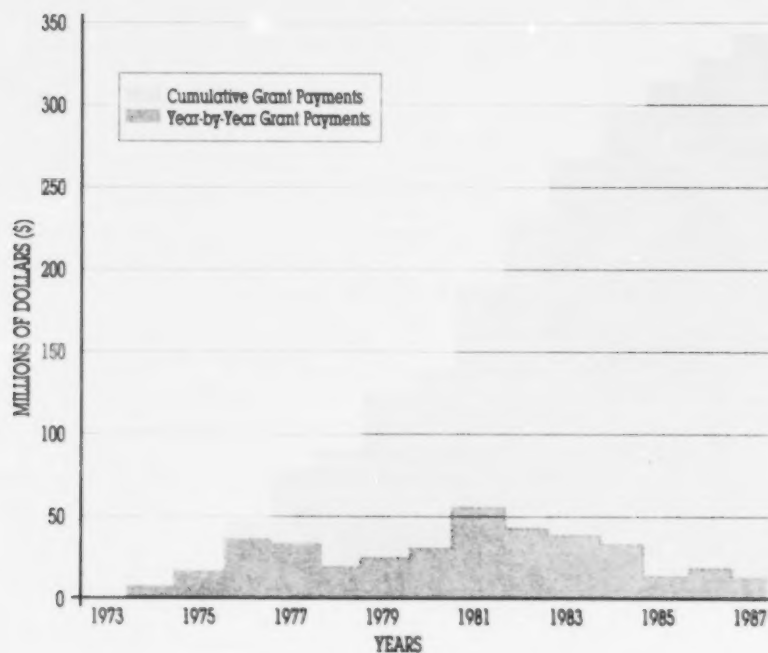
Total Kilometres of Pipeline Installed in Rural Natural Gas Distributor Systems to March 31, 1987



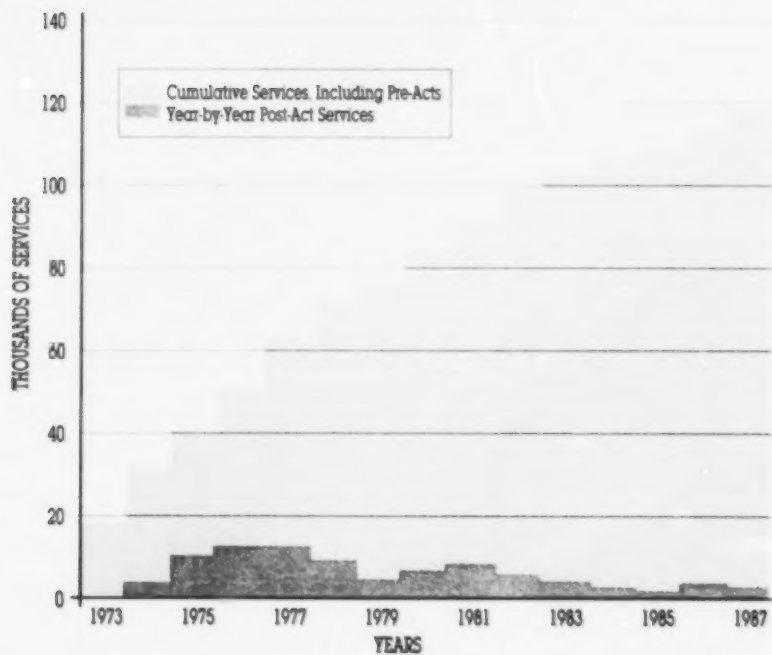
Percentage of Grants Issued Under the Rural Gas Program by type for 1986/87 Fiscal Year and Cumulative to March 31, 1987



**Cumulative and Year-By-Year Grant Payments Issued Under
THE RURAL GAS PROGRAM to March 31, 1987**



**Number of Rural Natural Gas Services Under
THE RURAL GAS PROGRAM to March 31, 1987**



MUNICIPAL UTILITIES DIVISION

**D. Shillabeer
Executive Director**

Planning and Engineering Branch 89

**M. Znak
Director**

Contracts and Grants Section 91

**M. Morgan
Manager**

During the 1986/87 fiscal year the *Municipal Utilities Division* continued to provide advisory, technical and financial support services to Alberta municipalities for the development of water supply and sewage treatment facilities and to farmers and ranchers for farm water transmission systems.

The division, consisting of the Planning and Engineering Branch and the Contracts and Grants Section, administers the following water and sewage assistance programs:

- **ALBERTA MUNICIPAL WATER SUPPLY AND SEWAGE TREATMENT GRANT PROGRAM** provides municipalities with financial assistance for the construction of water and sewage facilities. In the 1986/87 fiscal year 106 projects were approved in 95 communities totalling approximately \$35 million in project costs and over \$22 million in grants.
- **AGRICULTURAL PROCESSING INDUSTRIES GRANT PROGRAM** provides financial assistance to municipalities towards the capital costs for the development or expansion of water and sanitary sewage works to accommodate specific agricultural processing industries. A major highlight this past year, this new initiative became effective April 1, 1986 and will provide benefit to municipalities for a five year term.
- **REGIONAL UTILITIES PROGRAM** provides for the construction of multi-municipal water supply and sewage treatment facilities. This year activities centered around the construction of the Capital Region Sewage System.
- **NORTHERN SUPPLEMENTARY FUND**, in November 1986 continuation of this program (originally set to expire March 31, 1987) was approved. Under this program northern communities under the jurisdiction of the Northern Alberta Development Council are eligible to receive grants for the construction of water supply and sewage treatment facilities. For the past 10 years this program has been a vital factor in facilitating water and sewage servicing in isolated northern communities.
- **ALBERTA FARM WATER GRANT PROGRAM** continued to be extremely active with over 1375 farms actually served. The program also continued to have a positive economic impact on local businesses and suppliers in the farming community. Total dollars expended during 1986/87 amounted to approximately \$7 million.

Planning and Engineering Branch

The Planning and Engineering Branch provided a broad range of services to municipalities and farmers. During 1986/87 the branch continued to evaluate projects for which funding was requested under the water and sewage programs.

The branch maintained an effective liaison with municipalities and provided technical expertise to assist in the planning and implementation of municipal water and sewage projects and assisted in identifying the future needs of municipalities.

Staff participated actively in municipal and technical conferences this past year. Attendance at the Alberta Urban Municipalities Association Conference, Alberta Association of Municipal Districts and Counties Conference, Improvement Districts Conference, and the Western Canada Water and Sewage Conference provided the opportunity to obtain updated information and to meet with municipal officials to discuss their needs with respect to water and sewage facilities.

Branch staff also participated in the drafting of the new Rural Utilities Act which came into force during 1986. The branch is now responsible for the administration of the Act as it pertains to Water and Sewage Cooperatives. Activities included approving new incorporations and reviewing annual financial returns. As well, staff provided advisory services to encourage cooperatives to adhere to the regulatory requirements under the Act and to ensure that the integrity of existing systems is maintained.

Alberta Municipal Water Supply and Sewage Treatment Grant Program

Under this program 106 projects were approved for funding. Staff reviewed each application for need, design, capacity, scope, as well as cost-effectiveness. The cost of projects approved ranged in size from a \$6 million sewage system for the five communities comprising the Municipality of the Crowsnest Pass to a \$1200 project for a water testing equipment for the Village of Hay Lakes.

In order to respond to the needs of the municipalities in the most effective manner possible, and in light of the current economic situation, grant funding was provided to several municipalities for preliminary engineering studies. In such cases the studies were undertaken to evaluate the municipalities' needs prior to proceeding with any major water or sewage upgrading.

Earlier and more expedient project approvals allowed the municipalities to initiate the design and engineering stages of the project without a major outlay of funds.

Agricultural Processing Industries Grant Program

This new program was well received by the municipalities. The branch assessed the technical

merits of all requests under this program and obtained approval to fund six new projects.

Regional Utilities Program

The branch is also responsible for the ongoing implementation of the Regional Utilities Program. Staff acted as project managers for several systems under construction during the year. Three contracts for construction of the St. Albert Regional Trunk System were tendered and staff selected engineering consultants for the preliminary engineering work on the Morinville sewage line. Activities ranging from preparing crossing agreements, arranging for land assembly, producing tender documents and closing tenders to administration of the resultant construction contracts were undertaken.

Construction activity continued in the Edmonton area during 1986/87 with approximately \$20 million expended for construction, engineering and land costs.

The majority of the dollars spent were to continue construction of the Capital Region Sewage System. This system, once completed, will provide sewage service for 13 municipalities in the Edmonton area. By March 31, 1987, the total system was approximately 95 per cent completed. The Capital Region Sewage System consists of a number of sub-systems as follows:

- **PARKLAND SEWAGE SYSTEM** which serves the Town of Stony Plain, the City of Spruce Grove and the County of Parkland, consists of 35 kilometres (22 miles) of concrete gravity pipeline and steel forcemain and a sewage pumping station. The system was completed during 1986/87 and the ownership and operation of the system will be transferred to the Capital Region Sewage Commission during 1987.
- **NORTHEAST SEWAGE TRANSMISSION SYSTEM** was more than 95 per cent completed. The project consists of 30 kilometres (19 miles) of concrete gravity pipeline and steel forcemain and two sewage pumping stations. Serving the Town of Gibbons, the City of Fort Saskatchewan and the Municipal District of Sturgeon No. 90, it is anticipated the project will be totally completed during 1987. The ownership of the system will then be transferred to the Capital Region Sewage Commission.
- **ST. ALBERT OUTFALL TWINNING**, this project proceeded on time and under budget. Three separate construction costs were let for a total value of \$9 million. Completion was scheduled for early 1987.
- **MORINVILLE SEWAGE TRANSMISSION SYSTEM** was approved during 1985 and will connect the Town of Morinville to the Capital Region Sewage System. Two consulting engineering firms were engaged during 1986 to continue with preliminary design work. The new system will consist of 19 kilometres (12 miles) of forcemain

and a sewage lift station and will connect to the St. Albert outfall system. Construction is slated for 1987/88 and 1988/89.

Northern Supplementary Fund

With the extension of the program, staff undertook a detailed review of the program which reviewed the financial status, outlined new administrative procedures and identified strategies and project priorities for the future. The report also provided recommendations to the Northern Supplementary Committee (consisting of officials from the Northern Development Branch, Alberta Municipal Affairs and Alberta Transportation and Utilities) and to senior management, with regard to developing new guidelines/strategies for identifying ongoing needs and program administration.

Alberta Farm Water Grant Program

The Alberta Farm Water Grant Program was very active during its second year. The branch reviewed a total of 1400 individual and 34 group applications. Of this amount, 1153 individual projects were approved for funding and 19 group projects were implemented.

Farm program services provided by the branch relate both to individual and to group projects. For individual projects where technical assistance was required by the owner, Planning and Engineering staff provided such services, either directly, or by the use of private sector consultants. Much of the assistance provided related to licencing requirements under Alberta Environment's Water Resources Act, or right-of-way registration requirements, at no cost to the farmer.

Group projects represent a different dimension of the Alberta Farm Water Grant Program, and the planning, technical assistance and administrative requirements are considerably higher than for individual projects. During 1986/87, approximately \$3 million was provided to 32 group projects with the number of farms served by any one particular project ranging from two to over 100.

In order to assist the farmers in developing the most feasible system, and one that would best suit their needs, staff attended preliminary meetings where information and advice was provided. From there feasibility studies were undertaken and conceptual designs selected, allowing the group to make the decision to proceed. Staff then obtained formal approval of the grant funding with the group initiating the tendering process. During this construction, commissioning stage, staff were available to provide the groups with technical assistance and to provide inspection services as required.

In order to reduce costs and provide for early construction of group projects slated for the 1987/88 fiscal year, staff prepared conceptual designs and preliminary engineering data during the latter part of 1986/87.

Contracts and Grants

The Contracts and Grants Section is responsible for the ongoing administration of contracts and the processing of grant payments and invoices relating to water and sewage projects approved for funding. This section works in conjunction with the Planning and Engineering Branch to provide efficient and professional service to municipalities.

Staff of the Contracts and Grants Section work closely with the municipalities providing information, counselling and guidance with respect to record-keeping for projects, management of cash flow and auditing procedures.

Contracts and grants payments were processed under the following programs:

- **ALBERTA MUNICIPAL WATER SUPPLY AND SEWAGE TREATMENT GRANT PROGRAM AND AGRICULTURAL PROCESSING INDUSTRIES GRANT PROGRAM.** staff processed contracts for 112 newly approved projects. Some 140 payments were processed for these projects and for numerous projects carried forward from previous years. During the year 137 projects were completed and final grant payments were initiated.
- **REGIONAL UTILITIES PROGRAM.** nearly \$20 million was paid under this program during 1986/87. Payments for construction, engineering and land costs for regional projects were processed.
- **NORTHERN SUPPLEMENTARY FUND.** under this program 14 payments were processed to northern communities for their water and sewage facilities.
- **ALBERTA FARM WATER GRANT PROGRAM.** this program was extremely active during the last fiscal year with the Contracts and Grants Section processing over 1172 new projects and forwarding 870 payments to farmers for their water transmission facilities.

PUBLIC COMMUNICATIONS

L. Pushor
Director

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The *Public Communications Branch*, responsible for providing public relations counsel and a complete communications service to the various divisions in the department, communicates and promotes the achievements and programs of Alberta Transportation and Utilities to a variety of external audiences, as well as to staff.

It initiates, develops and implements public information and advertising campaigns in support of departmental policies, programs and services. The branch performs a co-ordinating role in the development of department publications, news releases, audiovisual, display and other communications needs. Public Communications is, additionally, a first point-of-contact for external department enquiries.

Public Communications Branch

During the 1986/87 fiscal period, Public Communications activities included the planning of winter/summer traffic safety awareness campaigns, in addition to the co-ordination of a special safety campaign related to the new eight light warning system for school buses. Events co-ordinated by the branch included the Fall 1986 official opening of the Crowsnest Continuous Corridor through Lethbridge and the opening of the Oldman River Bridge on Secondary Road 509. More than 400 regular news releases to the media outlining construction programs and tender awards were prepared and issued. "On the Road Again", the department's internal newsletter, was produced by the branch on a bi-monthly basis throughout the fiscal year. A regular daily news clipping service was also provided.

The department's public displays were again featured throughout the province during the summer months, supported by audiovisual and computer safety games, as well as the "Freeway" mascot and related promotional items. Major themes of the displays concerned road construction, traffic safety and specific branch messages.

The branch performed an active role in the co-ordination of National Transportation Week and the "Pave the Way for Rick Hansen" Campaign. This campaign involved selling each kilometre of Rick Hansen's wheelchair marathon route through the province and posting a sign bearing the purchaser's name at the beginning of each kilometre. This complex undertaking, which involved extra effort from several branches' personnel, resulted in a donation of \$126 000 to the Rick Hansen - Man in Motion World Tour. Throughout the year assistance was also provided on internal communications matters and branch staff consulted with individual managers in preparing and implementing communications initiatives in support of specific department programs.